

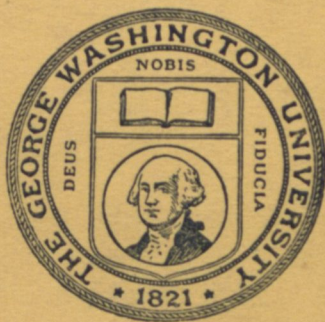
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CATALOGUE NUMBER

MARCH 1917



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GEORGE WASHINGTON UNIVERSITY
BULLETIN

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GENERAL AND HISTORICAL

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GENERAL AND HISTORICAL

1917							1918														
JULY							JANUARY							JULY							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
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8	9	10	11	12	13	14	13	14	15	16	17	18	19	20	14	15	16	17	18	19	20
15	16	17	18	19	20	21	20	21	22	23	24	25	26	27	21	22	23	24	25	26	27
22	23	24	25	26	27	28	27	28	29	30	31	28	29	30	31
29	30	31
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AUGUST							FEBRUARY							AUGUST							
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12	13	14	15	16	17	18	10	11	12	13	14	15	16	18	19	20	21	22	23	24	25
19	20	21	22	23	24	25	17	18	19	20	21	22	23	26	27	28	29	30	31
26	27	28	29	30	31	..	24	25	26	27	28
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SEPTEMBER							MARCH							SEPTEMBER							
..	2	3	4	5	6	1	1	2	1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
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30	24	25	26	27	28	29	30	29	30
..	31
OCTOBER							APRIL							OCTOBER							
..	1	2	3	4	5	6	..	1	2	3	4	5	6	..	1	2	3	4	5	6	7
7	8	9	10	11	12	13	7	8	9	10	11	12	13	8	9	10	11	12	13	14	15
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28	29	30	31	28	29	30	29	30
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NOVEMBER							MAY							NOVEMBER							
..	4	5	6	7	8	2	1	2	3	4	1	2	3
11	12	13	14	15	16	10	5	6	7	8	9	10	11	3	4	5	6	7	8	9	10
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25	26	27	28	29	30	..	19	20	21	22	23	24	25	17	18	19	20	21	22	23	24
..	26	27	28	29	30	31	..	24	25	26	27	28	29	30	31
..
DECEMBER							JUNE							DECEMBER							
..	2	3	4	5	6	1	..	2	3	4	5	6	7	1	1	2	3	4	5	6	7
9	10	11	12	13	14	8	9	10	11	12	13	14	15	8	9	10	11	12	13	14	15
16	17	18	19	20	21	22	16	17	18	19	20	21	22	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	23	24	25	26	27	28	29	22	23	24	25	26	27	28	29
30	31	30	29	30	31

UNIVERSITY CALENDAR

1917

April	30	<i>Monday.</i> —Last day on which theses of candidates for degrees at Commencement may be presented.
May	14	<i>Monday.</i> —Doctorate Disputation.
May	25, 26, 28, 29	Examinations for admission.
May	30	<i>Wednesday.</i> —A holiday in all Departments of the University.
May	31	<i>Thursday.</i> —Annual meeting of the Board of Trustees.
June	3	<i>Sunday.</i> —Baccalaureate Sermon.
June	6	<i>Wednesday.</i> —Commencement.

SUMMER VACATION

June 23	<i>Saturday.</i> —Registration for Summer School.
June 25	<i>Monday.</i> —Summer School begins.
September 26	<i>Wednesday.</i> —Academic Year begins in all Departments of the University.
October 1	<i>Monday.</i> —Last day on which theses of candidates for Engineering and Master's degrees at the Fall Convocation may be presented.
October 10	<i>Wednesday.</i> —Stated meeting of the Board of Trustees.
October 25	<i>Thursday.</i> —Fall Convocation.
Nov. 29-Dec. 1	<i>Thursday to Saturday,</i> both inclusive.—Thanksgiving recess.

RECESS FROM DECEMBER 24, 1917, TO JANUARY 2, 1918, BOTH INCLUSIVE

1918

January	2	<i>Wednesday.</i> —Last day on which theses of candidates for the Doctorate degrees at the Winter Convocation may be presented.
January	9	<i>Wednesday.</i> —Stated meeting of the Board of Trustees
January	28	<i>Monday.</i> —Last day on which theses of candidates for the Engineering and Master's degrees at the Winter Convocation may be presented.
February	4	<i>Monday.</i> —Second half-year begins.
February	4	<i>Monday.</i> —Doctorate Disputation.
February	17	<i>Sunday.</i> —Winter Convocation Sermon.
February	22	<i>Friday.</i> —Winter Convocation. A holiday in all Departments of the University.
March 29-April 1	<i>Friday to Monday,</i> both inclusive.—Easter holidays.	
April	2	<i>Tuesday.</i> —Davis Prize Speaking.
April	15	<i>Monday.</i> —Last day on which theses of candidates for the Doctorate degree at the Commencement may be presented.
May	13	<i>Monday.</i> —Last day on which theses of candidates for the Engineering and Master's degrees at the Commencement may be presented.
May	20	<i>Monday.</i> —Doctorate Disputation.
May	20-23	<i>Monday to Thursday.</i> —Examinations for admission.
May	29	<i>Wednesday.</i> —Annual meeting of the Board of Trustees.
May	30	<i>Thursday.</i> —A holiday in all Departments of the University.
June	2	<i>Sunday.</i> —Baccalaureate Sermon.
June	5	<i>Wednesday.</i> —Commencement.

THE LEGAL HISTORY OF THE CORPORATION

The George Washington University is the successor of the "Columbian College in the District of Columbia," which was chartered by Act of Congress in 1821. The name and title of the Columbian College were in 1873 changed by an Act of Congress, under the terms of which the College was given the name of the "Columbian University." The Columbian University was by Act of Congress in 1904 authorized to change its name, subject to the approval of the Secretary of the Interior and the Commissioner of Education. The Board of Trustees elected to take the name of "The George Washington University," and the name was approved by the government officials, as required by the statute; the change of name going into effect September 1, 1904. All the Acts of Congress now in force relative to the Columbian College and the Columbian University are therefore parts of the charter of The George Washington University.

The original charter of the Columbian College was as follows:

An Act to incorporate the Columbian College, in the District of Columbia

Be it enacted, &c., That there be erected, and hereby is erected and established, in the District of Columbia, a College, for the sole and exclusive purpose of educating youth in the English, learned, and foreign languages, the liberal arts, sciences, and literature; the style and title of which shall be, and hereby is declared to be, the "Columbian College in the District of Columbia."

Sec. 2. *And be it further enacted,* That the said College shall be under the management, direction, and government of a number of Trustees, not exceeding thirty-one, to be elected triennially, by the contributors to the said College, qualified to vote, in such manner, and under such limitations and restrictions, as may be provided by the ordinances of the College, on the first Monday in May; and that the first Trustees of the said College shall consist of the following persons, viz: Obadiah B. Brown, Luther Rice, Enoch Reynolds, Josiah Meigs, Spencer H. Cone, Daniel Brown, Return J. Meigs, Joseph Gibson, Joseph Cone, Thomas Corcoran, Burgis Allison, Thomas Sewall, and Joseph Thaw; which said Trustees, and their successors, shall forever hereafter be, and they are hereby declared to be, one body politic and corporate, with perpetual succession, in deed and in law, to all intents and purposes whatsoever, by the name, style and title of the "Columbian College in the District of Columbia;" by which name and title, they, the said Trustees, and, their successors, shall be competent and capable, at law and in equity, to take to themselves and their successors, for the use of the said College, any estate, in any messuage, lands, tenements, hereditaments, goods, chattels, moneys, and other effects, by gift, grant, bargain, sale, conveyance, assurance, will, devise, or be-

quest, of any person or persons whatsoever: *Provided*, the same do not exceed, in the whole, the yearly value of twenty-five thousand dollars; and the same messuages, lands, tenements, hereditaments, and estate, real and personal, to grant, bargain, sell, convey, assure, demise, and to farm, let, and place out on interest, for the use of the said College, in such manner as to them, or at least nine of them, shall seem most beneficial to the institution, and to receive the rents, issues, and profits, income and interest, of the same, and to apply the same to the proper use and benefit of the said College; and by the same name to sue, commence, prosecute, and defend, implead and be impleaded, in any courts of law and equity, and in all manner of suits and actions whatsoever, and generally, by and in the same name, to do and transact all and every the business touching or concerning the premises.

SEC. 3. *And be it further enacted*, That the said Trustees shall cause to be made for their use one common seal, with such devices and inscriptions thereon as they shall think proper, under and by which all deeds, diplomas, certificates, and acts of the said College, shall pass and be authenticated; and the same seal, at their pleasure, to break and devise a new one.

SEC. 4. *And be it further enacted*, That the said Trustees, or five of them at least, shall meet at the College, on College Hill, in the said District of Columbia, on the first Monday in March next, for the purpose of concerting and agreeing to such business as, in consequence of this Act, shall be proper to be laid before them at the commencement of the work they have undertaken, and shall have power to adjourn from time to time, as they shall see cause, to any other times or places, for the purpose of perfecting the same. That there shall be a stated meeting of the said Trustees held twice in every year at least, at such place and time as the said Trustees, or a quorum thereof, shall appoint, of which public notice shall be given, after the first meeting, at least twenty days before [the] time of such intended meeting, whenever the President, to be appointed by them, shall deem the business of the institution to require the same, and give due notice thereof, which he is hereby authorized to do; and if, at such stated or occasional meetings, five of the said Trustees shall not be present, those of them who shall be present shall have power to adjourn the meeting to any other day, as fully and effectually, to all intents and purposes, as if the whole number of Trustees for the time being were present; but, if five or more of the said Trustees shall meet at the said appointed times, or at any other time of adjournment, then such five of the said Trustees shall be a board or quorum, and a majority of the votes of them shall be capable of doing and transacting all the business and concerns of the said College not otherwise provided for by this Act; and particularly of making and enacting ordinances for the government of the said College; of electing and appointing the President, Professors, and Tutors, for the said College; of agreeing with them for their salaries and stipends, and removing them for misconduct, or breach of the laws of the institution; of appointing committees of their own body to carry into execution all and every the resolutions of the Board; of appointing a President, Treasurer, Secretary, stewards, managers, and other necessary and customary officers, for taking care of the estate and managing the concerns of the corporation; and, generally, a majority of voices of the board, or quorum of the said Trustees, consisting of five persons at least, at any semi-annual, occasional, or adjourned meeting, after notice, given as aforesaid, shall determine all matters and things (although the same be not herein particularly mentioned) which shall occasionally arise, and be incidentally necessary to be determined and transacted by the said Trustees *Provided always*, that no ordinances

shall be of force which shall be repugnant to this charter, or to the laws of the District of Columbia.

SEC. 5. *And be it further enacted*, That the head or Chief Master for the said College shall be called and styled the "President," and the Masters thereof shall be called "Professors and Tutors;" but neither President, Professors, or Tutors, while they remain such, shall ever be capable of the office of Trustee.

SEC. 6. *And be it further enacted*, That the President, Professors and Tutors, or a majority of them, shall be called and styled the "Faculty of the College," which Faculty shall have the power of enforcing the rules and regulations adopted by the Trustees for the government of the pupils, by rewarding or censuring them, and finally, by suspending such of them who as after repeated admonitions shall continue disobedient and refractory, until a determination of a quorum of the Trustees can be had; and of granting and confirming, by and with the approbation and consent of a board of the Trustees, signified by their mandamus, such degrees in the liberal arts and sciences, to such pupils of the institution or others, who, by their proficiency in learning, or other meritorious distinction, they shall think entitled to them, as are usually granted and conferred in colleges; and to grant to such graduates, diplomas or certificates, under their common seal, and signed by the Faculty, to authenticate and perpetuate the memory of such graduation.

SEC. 7. *And be it further enacted*, That persons of every religious denomination shall be capable of being elected Trustees; nor shall any person, either as President, Professor, Tutor, or pupil, be refused admittance into said College, or denied any of the privileges, immunities, or advantages thereof, for or on account of his sentiments in matters of religion.

SEC. 8. *And be it further enacted*, That no misnomer of the said corporation shall defeat or annul any gift, grant, devise, or bequest, to or from the said corporation: *Provided*, The intent of the parties shall sufficiently appear upon the face of the gift, grant, will, or other writing, whereby any estate or interest was intended to pass to or from the said corporation.

SEC. 9. *And be it further enacted*, That the constitution of the said College, herein and hereby declared and established, shall be, and remain, the inviolate constitution of the said College forever; and the same shall not be altered or alterable by any ordinance or law of the said Trustees: *Provided*, That it may be lawful for the Congress of the United States to revoke and repeal this Act, at any and at all times whenever they shall think fit so to do.

SEC. 10. *And be it further enacted*, That it shall be the duty of the said Board of Trustees to keep a regular book or journal, in which shall be entered, under their direction, besides an account of all their ordinary acts and proceedings, all the by-laws, ordinances, rules, and regulations, which may be adopted by the said Board for their own government, and for the government of the institution; also, a schedule of all the property and effects, real, personal, or mixed, which shall or may be vested in the said Trustees, for the use of the said College, by virtue of any gift, grant, bargain, sale, will, or otherwise, together with annual statements concerning the accounts and finances of the institution. That it shall, moreover, be the duty of the said Trustees to cause to be enrolled, in the said book or journal, the names of all the contributors to the institution qualified to vote for Trustees, with their respective places of residence; and the said book or journal shall, at all times be open to the inspection or examination of the Attorney General of the United States; and, when required by either House

of Congress, it shall be the duty of said Trustees to furnish information respecting their own conduct, the state of the institution, and of its finances, which shall or may be so required.

SEC. 11. *And be it further enacted*, That in case any vacancy or vacancies shall happen in the Board of Trustees aforesaid by death, inability, resignation, or otherwise, at any time between the stated or triennial elections, that then it shall and may be lawful for the other Trustees, or any five of them, to proceed, at any subsequent meeting after the happening of such vacancy or vacancies, to choose, by ballot, any suitable person or persons to fill the same.

SEC. 12. *And be it further enacted*, That the employment or application of the funds or income of the said corporation, or any part thereof, for any purpose or object other than those expressed and defined in the first section of this Act, or the investment thereof in any other mode than is described and provided in the second section thereof, shall be deemed and taken to be a forfeiture of all the rights and immunities derived from this Act, and the same shall, thenceforth, cease and become null and void.

Approved, February 9, 1821.

By Act of Congress of July 14, 1832, there were donated to the Columbian College Washington city lots to the value of twenty-five thousand dollars; the Act providing that the fund arising from the proceeds of the sale of the lots should constitute an endowment fund for the support of professorships. By Act of February 28, 1839, permission was granted to the College to use seven thousand dollars of the fund for the payment of its debts.

By Act of Congress of February 21, 1871, a form of government by an elected Governor and Legislative Assembly was established for the District of Columbia, and on July 25, 1871, the Legislative Assembly passed the following statute:

An Act for the relief of the Columbian College, in the District of Columbia

Be it enacted by the Legislative Assembly of the District of Columbia, That the Columbian College, in the District of Columbia, chartered by and organized and acting under the Act of Congress approved February nine, eighteen hundred and twenty-one, may, from the proceeds of any sale of its property, apply such sum as may be needful to pay its present indebtedness and place its libraries, buildings, and apparatus of instruction in good condition, and execute all deeds needful to quiet the title of property already sold.

SEC. 2. *And be it further enacted*, That the Trustees of said College elected in May last shall constitute the corporation of said College until their successors in office shall be chosen and qualified as hereinafter provided, and may, until then, as vacancies occur in their number, temporarily fill them by the election of fit persons residing in the District of Columbia.

SEC. 3. *And be it further enacted*, That the said Trustees shall meet in the Law Building of said College at noon, on the twenty-fifth day of June, eighteen hundred and seventy-two, for the purpose of choosing, and shall then and there, or at the time and place to which said meeting may be adjourned, elect thirteen Trustees and thirteen Overseers, who shall, upon their election, constitute the College corporation, and they and their successors shall thenceforward be, and be known and recognized as, the Columbian College in the District of Columbia.

SEC. 4. *And be it further enacted*, That the Trustees chosen at the said meeting in June, eighteen hundred and seventy-two, or who may thereafter be chosen, shall be residents of the District of Columbia, and that at said meeting, and at any annual meeting of Trustees and Overseers to be thereafter held in said City of Washington on the Tuesday next preceding the last Wednesday in June, annually, the Trustees and Overseers in convention assembled shall fill vacancies in their Board, and shall, by ballot, elect from among the Trustees two suitable persons, one to be President and the other to be Treasurer and Secretary of said corporation and of the Board of Trustees, and shall establish ordinances and by-laws, or alter or repeal the same; and also frame laws and regulations for the College Faculty and students in all the departments thereof, and by ballot elect such teachers, tutors, professors, lecturers, and President, and with such salaries and duties as said corporation may deem proper.

SEC. 5. *And be it further enacted*, That at said annual meetings not less than seven Trustees and three Overseers shall constitute a quorum for the transaction of any business except adjournment, and adjournment may be made by any number present: *Provided*, That a final adjournment shall not be delayed beyond one week after the time fixed for the annual meeting.

SEC. 6. *And be it further enacted*, That during the interval between said annual meeting the Trustees shall, as now, hold semi-annual, quarterly, monthly, and occasional meetings to fill temporarily, as the case may require, vacancies in the Faculty or in their own Board, and with all their present powers as modified by this Act, subject to the ordinances and by-laws of the corporation; but no real estate or other property of said corporation shall, after the twenty-fifth day of June, eighteen hundred and seventy-two, be disposed of by the Trustees, except by vote of the corporation or in pursuance of its ordinances.

Approved, July 25, 1871.

This Act of the Legislative Assembly of the District was confirmed by Congress in 1873, and by the same statute the College was given the name of "the Columbian University." This Act was as follows:

An Act supplemental to the Act of February ninth, eighteen hundred and twenty-one, incorporating the Columbia[n] College in the District of Columbia

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the act to incorporate the Columbia[n] College in the District of Columbia, approved February ninth, eighteen hundred and twenty-one, be, and the same is hereby, so modified that said corporation shall be hereafter known and called by the name of the Columbia[n] University, and in that name shall take, hold and manage all the estate and property now belonging to said College, or that may hereafter be conveyed, devised, or bequeathed to said corporation by its original name; that the restriction of the yearly value of the property of the said corporation to the sum of twenty-five thousand dollars be, and the said restriction is hereby, repealed; and that said corporation may increase the number of its Overseers to twenty-one, and the number of its Trustees to twenty-one, exclusive of the President of the Faculty, who shall be, *ex officio*, a Trustee of said corporation.

SEC. 2. That the Act for the Relief of the Columbian College in the District of Columbia enacted by the Legislative Assembly of said District, and approved July twenty-fifth, eighteen hundred and seventy-one, be, and the same is hereby, approved and confirmed: *Provided*,

That this Act nor the said Act of the Legislative Assembly of the said District, shall be so construed as to authorize the said Columbian University to sell, or use the proceeds of any sale of land granted by Congress to said institution for any purpose other than that expressed in the Act of Incorporation and the Act granting any such land or real estate, or contrary to any will, devise or grant of any land or real estate heretofore or hereafter made, by any person or persons to said institution.

Approved, March 3, 1873.

By the Act of Congress of May 31, 1878, it was provided that the annual meeting of the corporation might be held either in May or June, and by the Act of January 14, 1893, it was provided that the Secretary and the Treasurer might be elected from the Trustees or not, as the Board of Trustees might deem proper, and that it should not be necessary that both offices should be held by one person.

In 1898 Congress amended the charter by an Act as follows:

An Act supplemental to the Act of February ninth, eighteen hundred and twenty-one, incorporating the Columbian College in the District of Columbia, and the Acts amendatory thereof

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Columbian University, on and after the first day of June, eighteen hundred and ninety-eight shall be under the management and control of a Board of Trustees, consisting of twenty-two members; the President of the University shall be *ex officio* a member of said Board, and the remaining twenty-one shall be divided into three classes with seven members in each class; a majority of said Board shall be residents of the District of Columbia, and seven members shall constitute a quorum for the transaction of business. That on or before the thirty-first day of May, eighteen hundred and ninety-eight, a meeting of the Trustees and Overseers of said University shall be held, and said meeting shall elect twenty-one Trustees, seven of whom shall be designated to serve from the first day of June, eighteen hundred and ninety-eight, until the annual meeting in eighteen hundred and ninety-nine; and seven from the same date until the annual meeting in nineteen hundred; and seven until the annual meeting in nineteen hundred and one. Two-thirds of said Trustees, and also the President of the University, shall be members of regular Baptist churches; that is to say, members of churches of that denomination of Protestant Christians now usually known and recognized under the name of the regular Baptist denomination; said Trustees so elected shall serve for the periods mentioned and until their successors are elected. That on the first day of June, eighteen hundred and ninety-eight, the terms of office of the present Trustees and Overseers shall cease and determine and thereupon the control and management of said University, its property and trusts, shall vest in the Board of Trustees elected as hereinabove provided and their successors.

SEC. 2. That at the annual meeting in eighteen hundred and ninety-nine, and annually thereafter, there shall be elected by the Board of Trustees seven Trustees to fill the places of the class whose terms of office expire; and the Board of Trustees may prescribe in a by-law the mode of nominating persons for election as Trustees. A failure to elect Trustees at the annual meeting shall not create vacancies in the Board, but such election may be had and vacancies occurring during

the year may be filled for the unexpired term by the Board at any general or special meeting.

SEC. 3. That the Board of Trustees provided for herein shall have, and they are hereby given, full power and authority to appoint and remove any and all officers, professors, lecturers, teachers, tutors, agents, and employees who are now or may hereafter be elected or appointed; they may, by a vote of two-thirds of all the Trustees constituting said Board, adopt and change by-laws for the conduct of the business and educational work of said University; they may appoint an Executive Committee composed of Trustees, designate the number and Chairman thereof, with such powers and authority as are usually exercised by an Executive Committee, and which shall be conferred by the Board, subject always to the control of the Board of Trustees; they may create and establish schools and departments of learning to be connected with and become a part of said University; they may receive, invest, and administer endowments and gifts of money and property for the maintenance of educational work by said University, and by any department and chair thereof now established or which may hereafter be created or established by said University; and they shall have all the powers and authority heretofore granted to and vested in the Trustees and Overseers of said University.

SEC. 4. That the annual meeting of the Board of Trustees shall be held in the City of Washington, District of Columbia, on the Wednesday nearest the first day of June in each year; two other stated meetings shall be held on the second Wednesday of October and January in each year, and special meetings may be called by the President of the University or by the Executive Committee or by seven members of the Board of Trustees upon such notice and at such hour and place as may be designated in the by-laws; at all meetings any business necessary to be transacted may be considered and acted upon, and any meeting may be adjourned from time to time by the Trustees present, whether constituting a quorum or not, notice of such adjournment to be given, as of called meetings, to those Trustees not present.

SEC. 5. That the terms of office of the President of the University, the Treasurer and other officers, professors, and lecturers, and the employment of agents and employees, and the title to all the property and rights in and management of the endowment funds of the University shall not be affected by the change of management herein provided for, but they shall continue and be subject to the control and management of the Board of Trustees hereby created the same as they are now subject to the control and management of the corporation.

SEC. 6. That all acts and parts of acts inconsistent with the provisions of this Act are hereby repealed.

Approved, March 18, 1898.

In 1904 Congress passed an Act restoring the non-denominational character of the institution and permitting the change of its name. This Act and the certificate of change of name were as follows:

An Act supplemental to the Act of February ninth, eighteen hundred and twenty-one, incorporating the Columbian College in the District of Columbia, and the Acts amendatory thereof

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act to incorporate the Columbian College, in the District of Columbia, approved February ninth, eighteen hundred and twenty-one, and the amendatory Act approved March eighteenth, eighteen hundred and ninety-eight, be

and the same are hereby, amended by repealing and striking out of the said charter the following words in lines twenty to twenty-five in section one of the said amendatory Act of March eighteenth, eighteen hundred and ninety-eight, namely, "Two-thirds of said Trustees, and also the President of the University, shall be members of regular Baptist churches; that is to say, members of churches of that denomination of Protestant Christians now usually known and recognized under the name of the regular Baptist denomination."

SEC. 2. That section thirteen of the original charter of February ninth, eighteen hundred and twenty-one, which provides "That persons of every religious denomination shall be capable of being elected Trustees; nor shall any person, either as President, Professor, Tutor or pupil, be refused admittance into said College, or denied any of the privileges, immunities, or advantages thereof, for or on account of his sentiments in matters of religion," be, and the same is hereby, re-enacted and shall be hereafter in full force as a part of said charter.

SEC. 3. That power is hereby given to the Board of Trustees of said University to change the name of said University at any regular meeting by a vote of not less than two-thirds of the total number of members of the Board, as prescribed by the charter, subject to the approval of the Secretary of the Interior and the Commissioner of Education. That upon said action being taken a certificate, under the seal of the University, stating the name adopted and the date when the name shall go into effect not less than thirty days nor more than six months from the date of its adoption, together with the fact that said name has been adopted as herein prescribed, shall be filed in the office of the Recorder of Deeds of the District of Columbia, and thereupon, upon the date specified for the name to go into effect, the University shall be known and designated by the name adopted, and by said new name the said University shall be vested with and convey its real estate, hold, control, and administer endowments and gifts of money and property heretofore and hereafter made for the maintenance of its educational work, and do and perform all acts which it now has the power to do under its said charter. Such change of name shall not in any other way change, affect, or modify in any degree the rights, privileges, obligations, and powers of the said University under the charter of February ninth, eighteen hundred and twenty-one, and the amendatory Acts thereto.

SEC. 4. That all Acts and parts of Acts inconsistent with this Act are hereby repealed.

Approved, January 23, 1904.

Certificate of Change of Name of the Columbian University to "The George Washington University"

DISTRICT OF COLUMBIA,
City of Washington:

The Columbian University, in accordance with the Act of Congress approved January 23, 1904, does hereby certify that, at the regular meeting of its Board of Trustees, duly held on the eighth day of June, 1904, at which meeting there were present more than two-thirds of the total number of members of the Board, it was unanimously resolved that, subject to the approval of the Secretary of the Interior and the Commissioner of Education, prescribed by said Act of Congress, the name of this University be changed to that of The George Washington University, the same to go into effect on the first day of September, A.D. 1904.

And it is hereby further certified, that on the twentieth day of June,

A. D. 1904, the Secretary of the Interior and the Commissioner of Education duly approved in writing said change of name, which said written approval is hereto attached and made a part thereof.

In testimony whereof, said Columbian University has given this its certificate under its corporate seal, at the City of Washington, D. C., on the twenty-first day of June, A. D. 1904.

CHARLES W. NEEDHAM,
President.

Attest:

JOHN B. LARNER,
Secretary.
(Corporate Seal.)

UNITED STATES OF AMERICA,
DEPARTMENT OF THE INTERIOR,
WASHINGTON, D. C., *June 20, 1904.*

Pursuant to section 882 of the Revised Statutes, I hereby certify that the annexed paper is a true copy of the original as it appears upon the files of the Department.

In testimony whereof, I have hereunto subscribed my name, and caused the seal of the Department of the Interior to be affixed, the day and year first above written.

E. A. HITCHCOCK,
Secretary of the Interior.
W. B. A.

(Seal of the Department of the Interior.)

Whereas by Act of Congress approved January 23, 1904, the Columbian University was authorized to change its name, subject to the approval of the Secretary of the Interior and the Commissioner of Education;

And whereas it has been made satisfactorily to appear to us that, at the regular meeting of the Board of Trustees of said University, held on the eighth day of June, A. D. 1904, at which meeting there were present more than two-thirds of the total number of members of said Board, it was unanimously resolved to change the name of said University to that of The George Washington University, the same to go into effect on the first day of September, A. D. 1904;

Now, therefore, this is to witness that, pursuant to said Act of Congress, we do hereby, this twentieth day of June, A. D. 1904, approve said change of name.

E. A. HITCHCOCK,
Secretary of the Interior.
W. T. HARRIS,
Commissioner of Education.

(Seal of the Department of the Interior.)

In 1905 a further amendment to the charter was made, as follows:

An Act supplemental to the Act of February ninth, eighteen hundred and twenty-one, incorporating the Columbian College in the District of Columbia, and the Acts amendatory thereof

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That The George Washington University shall have, and is hereby given, power to increase the number of its Trustees from time to time, by a two-thirds vote of the whole number of the Trustees at the time such vote is taken, to a number not exceeding forty-five. In case of the increase of the number of Trustees

a certificate, stating the number of the Board and the time when it shall go into effect and that the action so taken was by two-thirds vote as required by this Act, shall be filed with the Recorder of Deeds of the District of Columbia, and upon and after the date named the Board shall consist of the number of Trustees, stated in such certificate, and said Board may also appoint a Board or Boards of Visitors for any department or departments of educational work carried on by the University, such Boards of Visitors to be advisory only.

SEC. 2. That by and with the consent of said University, Colleges may be organized hereunder for the purpose of carrying on, in connection with the University, special lines of educational work in the arts, sciences, and liberal and technical knowledge, such Colleges to be educationally a part of the system of the University, but upon independent financial foundations, and to this end any five or more persons desirous of associating themselves for the purpose of establishing a College hereunder, may make, sign, and acknowledge before any officer authorized to take acknowledgment of deeds in the District of Columbia, and with the assent of the University in writing, file in the office of the Recorder of Deeds of the said District a certificate in writing, in which shall be stated: First, the intention to organize a corporation under this Act and the assent of the University thereto; second, the name or title by which the College shall be known in law; third, the names of the Trustees constituting the first Board, and such Trustees may be divided into three classes, the term of office of one class expiring annually; fourth, the manner of nominating and electing successors to said Trustees; fifth, the branch or branches of literature, arts, sciences, liberal or technical knowledge proposed to be taught; sixth, that the highest officer of said College shall be a Dean, the Dean and members of the Faculty to be members of the Educational Councils of the University in accordance with the rules governing the University; seventh, that all degrees shall be bestowed by the University; eighth, that in all financial and legal responsibility the College shall be an independent organization. Upon filing such certificate the Trustees named therein and their successors shall be a body politic, incorporated by the name and style stated in the certificate, and by that name and style shall have perpetual succession in association with the University, with power in the College to sue and be sued; plead and be impleaded; to acquire, hold, and convey property in all legal ways; to receive by gift, devise, or otherwise, and hold, control, and administer endowments and gifts of money and property thereafter made to it for the maintenance of its educational work; to have and use a common seal, and to alter and change the same at pleasure; to make and alter from time to time such by-laws, not inconsistent with the Constitution of the United States or the laws in force in said District or the laws of the University regulating the conduct of educational work, as may be deemed necessary for the government of the College, but said College shall not confer academic or honorary degrees; such College shall hold the property of the institution and all moneys and property conveyed to it by purchase, gift, conveyance, will, devise, or bequests solely for the purposes of the educational work specified in said certificate; the Trustees of such College shall faithfully apply all funds collected or received and the proceeds thereof belonging to the institution, according to their best judgment, in purchasing lands and erecting buildings, supporting necessary officers, instructors, and servants, and procuring all equipment, educational and otherwise, necessary to carry on the work of the College.

SEC. 3. That said University may enter into affiliated agreements with any institutions of learning outside of the District of Columbia,

for the purpose of giving to students of such institutions the educational facilities of said University and the Departments of the Government in the City of Washington which are by law open to students, upon such terms as are mutually agreed upon by the said University and the affiliated institutions.

Approved, March 3, 1905.

Under section 2 of the Act of 1905, there now exist two colleges which are doing special educational work and which are in active operation—the National College of Pharmacy, organized in 1905, and the College of Veterinary Medicine, organized in 1908. The financial affairs of these Colleges are separate from those of the University, and are managed by their separate Boards of Trustees. The Faculties of these Colleges are also appointed by their respective Boards of Trustees. The connection between these Colleges and the University consists in the fact that their Deans are members of the President's Council, and that the Board of Trustees of the University confers degrees for the work done in these Colleges.

By resolutions of the Board of Trustees of the University of May 6, 1909, and January 12, 1910, provision was made for the nomination by the Alumni of two Alumni Trustees each year. In the spring of 1910, this plan was put in operation, and since then the two persons annually nominated as Alumni Trustees have been elected to membership on the Board.

BY-LAWS OF THE GEORGE WASHINGTON UNIVERSITY

ARTICLE I

The President of the University

SECTION 1. The President of the University shall hold office without limit of time, until his resignation be accepted, or he be removed from office by the Board of Trustees; he shall be the executive head of the University and of all its departments, exercising such supervision, direction, and control as will promote the efficiency of every department; he shall be responsible, under the supervision of the Board of Trustees, for the discipline of the University; he shall preside at the meetings of the Faculties, and be the official medium of communication between the Faculties and the Board of Trustees, and between the students of the University and the Board of Trustees; he shall recommend to the Board of Trustees appointments to the several Faculties; he shall be responsible for carrying out such measures concerning the internal administration of the University as the Board of Trustees may enact. He shall make a yearly report to the Board of Trustees at the January meeting concerning the state of the University. He shall control the expenditure and administration of the yearly budget when formally adopted by the Board of Trustees.

ARTICLE II

Board of Trustees

SECTION 1. No member of the teaching staff of the University except the President of the University, or of the teaching staff of any college incorporated under the charter of the University, while he remains such, shall be capable of holding the office of Trustee of the University.

SEC. 2. At the annual meeting of the Board after the election of Trustees, the Board shall elect by ballot from among their number a Chairman and Vice-Chairman of the Board to serve until the next annual meeting and until their successors are elected and qualified. The Chairman of the Board, and in his absence the Vice-Chairman, shall preside at all meetings of the Board of Trustees.

SEC. 3. At the annual meeting after the election of Trustees the Board shall elect by ballot the following officers, to serve until the next annual meeting and until their successors are elected and qualified: a Secretary, a Treasurer, an Auditor, and a Counsel of the University.

SEC. 4. In the event of a failure for any reason so to elect either or

all of the said officers, or in case of any vacancy from any cause, then an election may be held for the unexpired term at a meeting called for that purpose.

SEC. 5. The annual meeting of the Board of Trustees shall take place on the Wednesday nearest the first day of June of each year, or when that Wednesday is a legal holiday on the first following business day.

SEC. 6. Stated meetings of the Board shall be held on the second Wednesdays of October and January.

SEC. 7. Notice of all stated meetings shall be mailed by the Secretary of the University to each member of the Board at least five days previous to the time of such meetings.

SEC. 8. Special meetings may be called at any time by the President of the University, the Executive Committee, or by seven members of the Board of Trustees. The Secretary shall issue the notices of such meetings.

SEC. 9. The call for special meetings shall state the nature of the business to be considered, and shall be mailed at least two days before the meeting is to be held.

SEC. 10. Seven members of the Board of Trustees shall constitute a quorum for the transaction of any business.

ARTICLE III

Executive Committee

SECTION 1. There shall be an Executive Committee of seven members of the Board of Trustees, of which the President of the University shall be Chairman *ex officio*. The other members of the committee shall be elected by ballot at the annual meeting, and shall serve until their successors are elected.

SEC. 2. In case of inability to act on the part of any member of the Committee his place may be filled by the Board of Trustees.

SEC. 3. Four members of the Committee shall constitute a quorum for the transaction of business.

SEC. 4. The Committee is authorized to transact such business as may require attention between the regular meetings of the Board of Trustees; but the Chairman of the Committee shall make report at each stated meeting of the Board on the proceedings of the Committee during the intervening period, and at any meeting of the Board, if any member of the Board shall request that the report of the proceedings of any meeting or meetings of the Committee be read, the same shall be read by the Secretary.

SEC. 5. Regular meetings of the Committee shall be held during the academic year monthly, and special meetings may be called by the Secretary whenever requested by the Chairman or any two members of the Committee.

SEC. 6. In case of inability to act on the part of the Chairman of the Committee, the Committee may appoint a temporary chairman for the meeting.

ARTICLE IV

Finance Committee

SECTION 1. There shall be a Finance Committee of three members of the Board of Trustees who shall be elected at the annual meeting to serve until their successors are elected.

SEC. 2. The Committee shall invest and reinvest University funds, and shall exercise general supervision over the Treasurer's office, making report at every regular meeting of the Board of Trustees.

ARTICLE V

Visiting Committees

SECTION 1. At the annual meeting there shall be appointed a Committee of three members for each school or department of the University, who shall visit and inspect the condition and conduct of the school or department and make a written report thereon to the January stated meeting of the Board of Trustees.

ARTICLE VI

The Secretary of the University

SECTION 1. The Secretary of the University shall as such attend and keep minutes of all meetings of the Board of Trustees, the Executive Committee, the educational council and faculties, as may by resolution of the Board be required to keep records. He shall give to any meeting at which he is entitled to be present any information concerning University affairs which he may have and which may be proper to be brought before such meeting. He shall have the custody of all the files and records of the University proper to his office; he shall have the custody of the corporate seal of the University, and shall affix it to corporate acts authorized by the Board of Trustees or the Executive Committee, and he shall generally do and perform such administrative duties as may be assigned him by the President from time to time not inconsistent with the by-laws.

ARTICLE VII

The Treasurer of the University

SECTION 1. The Treasurer shall give bond or shall be bonded in a surety company, at the expense of the University, for the faithful performance of his duties in such sum and with such sureties as shall be approved by the Board of Trustees.

SEC. 2. He shall keep all the funds of the University in such bank or banks as the Board of Trustees shall designate; he shall keep the trust funds, and the full account thereof, separate from the current or general funds and accounts of the University; he shall make monthly statements, showing the current financial operations and the condition of the trust funds and other invested funds to the Executive Committee; he shall

make a full report annually to the Board of Trustees as specified in Article XI, and he shall at such other times make such reports as the Trustees may require.

SEC. 3. He shall make payments only by checks upon the bank countersigned by the President of the University, or in his absence by the Secretary, and only for investments, salaries, bills, and expenses authorized by the Board of Trustees or the Executive Committee, provided, however, that when the Treasurer is absent or incapacitated, or when the office of Treasurer is vacant, or when the President and Secretary are both absent or incapacitated, or in any other emergency, the Executive Committee may by resolution make special and temporary arrangements for the signing or countersigning of checks.

ARTICLE VIII

The Auditor of the University

SECTION 1. The Auditor of the University shall make three audits each year of the books and accounts of the Treasurer. The fiscal year shall end at midnight on August 31 of each year, and the accounts shall be audited as of December 31, April 30, and August 31 at midnight.

SEC. 2. A corporation may be elected by the Board of Trustees as the Auditor of the University.

ARTICLE IX

The Counsel of the University

SECTION 1. The Counsel of the University shall render opinions to the President, the Board of Trustees, or to the Executive Committee, when requested, upon legal questions arising in the management of the educational or business affairs of the University, and shall represent the University in all legal proceedings prosecuted by or against the University. The Counsel of the University may be a member of the Board of Trustees.

ARTICLE X

Committee on Catalogue

SECTION 1. Each year the annual catalogue of the University shall be prepared by a committee consisting of the President of the University as Chairman, the Secretary of the University, and three members of the Faculty of the University appointed by the President. The Catalogue shall be published annually in pamphlet form. Each annual catalogue shall contain the charter and by-laws of the University.

ARTICLE XI

Annual Financial Report

SECTION 1. Between July 1 and October 1 in each year there shall be prepared by the Treasurer a financial report showing in detail the

financial condition of the University during the previous year, which financial report shall be certified by the Auditor to be correct. This report shall be laid before the Board of Trustees at their October meeting, and when approved by the Board of Trustees shall, with any modifications ordered by them and assented to by the Treasurer and Auditor, be printed by the University in pamphlet form.

ARTICLE XII

Sale of Land and Other Assets

SECTION 1. Real estate and other securities of the University shall not be sold or disposed of except by direction of the Board of Trustees.

SEC. 2. All deeds and conveyances of real estate belonging to the University shall be signed by the President of the University and the Secretary, and the same shall be acknowledged, attested, and the seal of the University attached thereto by the Secretary.

ARTICLE XIII

Amendments

SECTION 1. These by-laws may be amended or repealed at any meeting of the Board by a vote of the majority of all members of the Board, provided notice of the proposed amendment or change has been sent to each member of the Board at least five days before the meeting.

ARTICLE XIV

Former By-Laws Repealed

SECTION 1. All by-laws heretofore enacted are hereby repealed.

ORDINANCE

ARTICLE I

Organization

SECTION 1. The departments, colleges, and schools forming an integral part of the University are as follows: The Department of Arts and Sciences, comprehending the School of Graduate Studies, Columbian College, the College of Engineering, Teachers College; the Department of Medicine comprehending the Medical School and the Dental School; the Law School. These departments, colleges, and schools are subject to the Board of Trustees represented by the President of the University, and unless otherwise noted, to the rules and regulations herein set forth.

SEC. 2. Associated colleges organized in accordance with the charter of the University on independent financial foundations are under the immediate control of their respective Boards of Trustees, subject in educational matters to the authority of the President and the University Board of Trustees. The National College of Pharmacy and the College of Veterinary Medicine are such associated colleges.

SEC. 3. The Medical School including the University Hospital, and the Dental School are organized under special ordinances of the Board of Trustees, and are subject to the rules and regulations of this ordinance only where the special ordinances governing them do not conflict with this ordinance.

ARTICLE II

Faculties

SECTION 1. Each department, college, and school shall be under the immediate charge of a faculty subject to the authority of the President's Council. The faculties shall recommend to the Board of Trustees candidates for degrees, diplomas, certificates, and awards.

SEC. 2. Each faculty shall be composed of all the Professors, Assistant Professors, and Instructors who teach in the department, school, or college under the charge of that faculty, and of such other members as the faculty may, on the recommendation of the Dean, with the approval of the President, admit to membership. The President shall be *ex officio* a member of each faculty, and the Secretary shall *ex officio* have voice at all faculty meetings, but no vote.

SEC. 3. A faculty may, at its discretion, delegate any of its purely administrative powers to an executive committee of which a Dean shall be Chairman, the members of which shall be nominated by that Dean and appointed by the President. Every executive committee shall be subject to the authority of the faculty from which it is appointed.

ARTICLE III

President's Council

SECTION 1. The President's Council shall have charge of all administrative educational questions, subject to the confirmation of the Board of Trustees.

SEC. 2. The President's Council shall be responsible for the coördination of work throughout the University and shall have immediate jurisdiction over every administrative educational question touching the interests of more than one department, college, or school.

SEC. 3. The President's Council shall be composed of the President of the University, the Secretary of the University, and of all the Deans in the University, *ex officio*, and of a representative or representatives from each department, college, and school of the University to be elected annually by the faculties of the respective departments, colleges, and schools; those departments, colleges, and schools with a registration of less than two hundred students having one representative, those with more than two hundred students having two representatives.

ARTICLE IV

Deans

SECTION 1. The Dean of each department, college, or school shall be appointed by the Board of Trustees from among the members of its faculty. The Dean shall, under the President, be the chief executive officer of his department, college, or school. As such he shall have authority in his department, college, or school to enforce such regulations as may be imposed by the Board of Trustees or the Faculty. He shall be held responsible for the proper preparation and conduct of the business of his department, college, or school, and for the performance of such administrative duties as pertain to his office and may be required of him by the President. He shall make annual written reports to the President.

ARTICLE V

Titles of the Teaching Staff

SECTION 1. The academic titles of those engaged in teaching shall be Professor, Assistant Professor, Instructor, Assistant, Demonstrator, and Lecturer. The word "Associate" may be prefixed to any title where, under the terms of this ordinance, it is appropriate, and in the Medical School this title may be used as provided in the special ordinances governing that department.

ARTICLE VI

Appointments

SECTION 1. Instructors, Assistants, Demonstrators, and Lecturers shall, in the absence of agreement to the contrary, be appointed annually,

with such compensation as shall be fixed by the Board of Trustees at the time of the appointment.

SEC. 2. Assistant Professors shall not be appointed for more than three years, subject to removal in accordance with the provisions of the charter of the University, and shall serve as Assistant Professors for at least three years before being eligible for promotion to a professorship.

SEC. 3. Professors shall be appointed without limit of time, subject to removal in accordance with the provisions of the charter of the University.

ARTICLE VII

Academic Year

SECTION 1. The academic year shall begin on the last Wednesday of September, and shall end on the Wednesday following the annual meeting of the Board of Trustees.

THE BOARD OF TRUSTEES

CHARLES HERBERT STOCKTON, LL.D.

President of the University

1917

CHARLES BERGER CAMPBELL, Phar.D., M.D., 1731 Lamont Street
*HARRY CASSELL DAVIS, A.M., L.H.D., 1929 Eighteenth Street
WILLIAM JAMES FLATHER, Riggs National Bank
*JOHN B. LARNER, LL.B., LL.D., 900 F Street
HENRY BROWN FLOYD MACFARLAND, 1420 New York Avenue
WALTER RUPERT TUCKERMAN, A.B., LL.B., 816 Connecticut Avenue
HENRY WHITE, LL.D., 1624 Crescent Place

1918

*MELVILLE CHURCH, LL.M., 1608 Twentieth Street
GILBERT HOVEY GROSVENOR, A.M., 1328 Eighteenth Street
ABRAM LISNER, 1723 Massachusetts Avenue
HENRY CLEVELAND PERKINS, 1701 Connecticut Avenue
ALPHEUS HENRY SNOW, A.B., LL.B., 2013 Massachusetts Avenue
MAXWELL VAN ZANDT WOODHULL, A.M., 2033 G Street

1919

HENRY GUSTAV BEYER, M.D., Ph.D., The Marlborough
*JAMES HOLDSWORTH GORDON, A.M., LL.B., 412 Fifth Street
ARCHIBALD HOPKINS, A.M., LL.B., 1826 Massachusetts Avenue
THOMAS SNELL HOPKINS, LL.B., Hibbs Building
*WILLIAM BRUCE KING, A.M., LL.M., 1822 Wyoming Ave.
MARTIN AUGUSTINE KNAPP, A.M., LL.D., Southern Building
ERNEST LAWTON THURSTON, C.E., A.M., 1414 Madison Street

* Nominated by the Alumni.

CHAIRMAN OF THE BOARD OF TRUSTEES

JOHN B. LARNER

VICE-CHAIRMAN OF THE BOARD OF TRUSTEES

ARCHIBALD HOPKINS

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A. LISNER, W. B. KING, M. VAN Z. WOODHULL.

Finance.—W. J. FLATHER, M. VAN Z. WOODHULL, A. H. SNOW.

Subscriptions and Endowments.—A. LISNER, H. B. F. MACFARLAND,
M. VAN Z. WOODHULL, A. HOPKINS, W. R. TUCKERMAN.

Honorary Degrees.—C. H. STOCKTON, A. HOPKINS, H. WHITE.

Columbian College.—H. C. DAVIS, J. H. GORDON, W. B. KING.

Engineering.—H. C. PERKINS, E. L. THURSTON, M. CHURCH.

School of Graduate Studies and Teachers College.—A. HOPKINS,
H. G. BEYER, G. H. GROSVENOR.

Law.—J. B. LARNER, H. B. F. MACFARLAND, J. H. GORDON, W. B. KING.

Medicine, Dentistry, and Hospital.—H. G. BEYER, M. A. KNAPP,
J. B. LARNER.

Associated Colleges.—T. S. HOPKINS, C. B. CAMPBELL.

Counsel: CLEPHANE AND CLEPHANE.

Auditor: AMERICAN AUDIT COMPANY.

ADMINISTRATIVE OFFICERS

THE UNIVERSITY

President.—CHARLES HERBERT STOCKTON, LL.D.
Secretary.—RICHARD COBB, A.B.
Offices.—2023 G Street.
Treasurer.—CHARLES WENDELL HOLMES.
Office.—2024 G Street.
Librarian.—ALFRED FRANCIS WILLIAM SCHMIDT, A.M.
Office.—2023 G Street.

DEPARTMENT OF ARTS AND SCIENCES

Dean.—HOWARD LINCOLN HODGKINS, Ph.D.
Dean of Columbia College.—WILLIAM ALLEN WILBUR, A.M., Litt.D.
Dean of the College of Engineering.—HOWARD LINCOLN HODGKINS, Ph.D.
Dean of Teachers College.—WILLIAM CARL RUEDIGER, Ph.D.
Recorder.—ELEANOR WILSON HANCE, S.M.
Offices.—2023 G Street.
Dean of the School of Graduate Studies.—CHARLES EDWARD MUNROE, Ph.D., LL.D.
Offices.—1335 H Street.

LAW SCHOOL

Dean.—EVERETT FRASER, A.B., LL.B.
Secretary.—WILLIAM CABELL VAN VLECK, A.B., LL.B.
Office.—New Masonic Building.

MEDICAL SCHOOL

Dean.—WILLIAM CLINE BORDEN, M.D.
Librarian.—HARRY KNOX CRAIG, M.D.
Offices.—1335 H Street.

DENTAL SCHOOL

Dean.—JOHN ROLAND WALTON, D.D.S.
Office.—1335 H. Street.

NATIONAL COLLEGE OF PHARMACY

Dean.—HENRY E. KALUSOWSKI, M.D., Phar.D.
Office.—808 I Street.

COLLEGE OF VETERINARY MEDICINE

Dean.—DAVID EASTBURN BUCKINGHAM, V.M.D.
Office.—2113 Fourteenth Street.

PRESIDENT'S COUNCIL

(Arranged in Departmental Groups)

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RICHARD COBB, A.B..... Secretary of the University
CHARLES EDWARD MUNROE, Ph.D., LL.D.

Dean of the School of Graduate Studies

HERMANN SCHOENFELD, Ph.D., LL.D..... Professor of German
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GEORGE NEELY HENNING, A.M..... Professor of Romance Languages
CHARLES SIDNEY SMITH, Ph.D..... Professor of Greek and Latin
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Dean of the College of Engineering

EDWIN VIVIAN DUNSTAN, C.E..... Professor of Civil Engineering
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ALFRED FRANCIS WILLIAM SCHMIDT, A.M..... Professor of German
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MERTON LEROY FERSON, A.M., LL.B.,..... Professor of Law
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JOHN ROLAND WALTON, D.D.S..... Dean of the Dental School
HENRY CLAY THOMPSON, D.D.S..... Professor of Operative Dentistry
HENRY E. KALUSOWSKI, Ph.D.,

Dean of the National College of Pharmacy

DAVID EASTBURN BUCKINGHAM, V.M.D.,

Dean of the College of Veterinary Medicine

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Catalogue and Other Publications.—The President, the Secretary, Professors HODGKINS, WILBUR, and RUEDIGER.

Admissions.—Professors HODGKINS, RUEDIGER, and WILBUR.

Schedule.—Professors HENNING, DUNSTAN, and RUEDIGER.

Library.—Professors SCHOENFELD, HENNING, the Librarian.

Summer School.—Professors RUEDIGER, HODGKINS, WILBUR, HUNTER, and VAN VLECK.

Student Activities.—Professors FRASER, HENNING, RUEDIGER, KALUSOWSKI, BUCKINGHAM, CRAIG, BASSETT, CROISSANT (Secretary) and Mr. HALSEY.

Affiliated Colleges.—Professors BORDEN, MUNROE, and HENNING.

UNIVERSITY MEMBERS OF FACULTIES AND TEACHING STAFF *

(Arranged with the exception of the President, in groups, in the order
of appointment and omitting Faculties of the Associated Colleges.)

CHARLES HERBERT STOCKTON, LL.D.....PRESIDENT OF THE UNIVERSITY

PROFESSORS

GEORGE NICHOLAS ACKER, A.M., M.D.,
Professor of Pediatrics and Clinical Professor of Medicine

✓ HOWARD LINCOLN HODGKINS, Ph.D.....Dean of the Department of
Arts and Sciences, Dean of the College of Engineer-
ing, and Professor of Mathematics

HENRY CRÈCY YARROW, M.D.....Professor of Dermatology, Emeritus

DANIEL KERFOOT SHUTE, A.B., M.D.,
Clinical Professor of Ophthalmology

HENRY CLAY THOMPSON, D.D.S.....Professor of Operative Dentistry

HERMANN SCHOENFELD, Ph.D., LL.D.....Professor of German

STERLING RUFFIN, M.D.....Professor of Medicine

CHARLES EDWARD MUNROE, Ph.D., LL.D.,
Dean of the School of Graduate Studies and Professor of Chemistry

CHARLES WILLIAMSON RICHARDSON, M.D.,
Professor of Laryngology, Rhinology, and Otology

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Professor of Mineral Chemistry

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Dean of Columbian College and Professor of English

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THOMAS ASH CLAYTOR, M.D.....Clinical Professor of Medicine

AURELIUS RIVES SHANDS, M.D.....Professor of Orthopedic Surgery

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FRANCIS RANDALL HAGNER, M.D.,
Professor of Genito-Urinary Surgery

WALTER COLLINS CLEPHANE, LL.M.....Professor of Law

MITCHELL CARROLL, Ph.D.,
Professor of Archaeology and the History of Art

PAUL BARTSCH, Ph.D.....Professor of Zoology

EDWIN CHARLES BRANDENBURG, LL.M.....Professor of Law

ARTHUR PETER, LL.B.....Professor of Law

* NOTE—In many instances members of the Teaching Staff give only part time to the University. For the names of the members of the Faculties and Teaching Staff of the Associated Colleges, see Part III of this catalogue.

- WILLIAM CREIGHTON WOODWARD, LL.M., M.D.,
Professor of Medical Jurisprudence
- ALBERT LIVINGSTON STAVELY, M.D.... Clinical Professor of Gynecology
- GEORGE NEELY HENNING, A.M..... Professor of Romance Languages
- JOHN PAUL EARNEST, A.M., LL.M..... Professor of Law
- JOHN ROLAND WALTON, D.D.S..... Dean of the Dental School and
Professor of Prosthetic Dentistry and Orthodontia
- WILLIAM ALANSON WHITE, M.D.,
Professor of Psychiatry, and Clinical Professor of Neurology
- ALBERT BURNLEY BIBB..... Professor of Architecture
- ASAPH HALL, JR., Ph.D..... Professor of Astronomy
- ALBERT MANN, Ph.D..... Professor of Botany
- SHEPHERD IVORY FRANZ, Ph.D., LL.D., M.D.,
Professor of Physiology and Professor of Experimental Psychology
- CHARLES SIDNEY SMITH, Ph.D..... Professor of Greek and Latin
- WENDELL PHILLIPS STAFFORD, A.M., LL.D..... Professor of Law
- WILLIAM CLINE BORDEN, M.D.,
Dean of the Department of Medicine, Dean of the Medical
School, and Professor of Surgery
- CHARLES STANLEY WHITE, M.D.,
Clinical Professor of Oral Surgery and Associate Professor of Surgery
- WILLIAM KENNEDY BUTLER, A.M., M.D.... Professor of Ophthalmology
- BUCKNER MAGILL RANDOLPH, M.D.,
Professor of Materia Medica and Therapeutics
- LUTHER HALSEY REICHELDERFER, M.D.... Clinical Professor of Surgery
- JAMES DUDLEY MORGAN, A.B., M.D.,
Clinical and Associate Professor of Medicine
- LOUIS ANATOLE LA GARDE, M.D.,
Professor of Military Surgery and Sanitation
- WILLIAM CARL RUEDIGER, Ph.D.,
Dean of Teachers College, and Professor of Educational Psychology
- ALFRED FRANCIS WILLIAM SCHMIDT, A.M.,
Librarian and Professor of German
- WILLIS LUTHER MOORE, Sc.D., LL.D., Professor of Applied Meteorology
- WILLIAM JACKSON HUMPHREYS, C.E., Ph.D.,
Professor of Meteorological Physics
- NOBLE PRICE BARNES, M.D.,
Professor of Materia Medica and Therapeutics
- GIDEON BROWN MILLER, S.B., M.D.... Clinical Professor of Gynecology
- EDWARD ELLIOTT RICHARDSON, M.D., Ph.D.... Professor of Philosophy
- GEORGE WASHINGTON LITTLEHALES, C.E., Professor of Nautical Science
- OSCAR BENWOOD HUNTER, A.B., M.D., Professor of Histology and
Embryology and Associate Professor of Anatomy
- EDWIN VIVIAN DUNSTAN, C.E..... Professor of Civil Engineering
- OSCAR ALEXANDER MECHLIN, C.E..... Professor of Civil Engineering
- EVERETT FRASER, A.B., LL.B.,
Dean of the Law School and Professor of Law

- WILLIAM SINCLAIR BOWEN, M.D.....Clinical Professor of Obstetrics
 OSCAR ADDISON MACK McKIMMIE, M.D.,
 Clinical Professor of Laryngology and Otology
 LOUIS MACKALL, M.D.....Clinical Professor of Medicine
 CARL LAWRENCE DAVIS, M.D.....Professor of Anatomy
 JOHN WILMER LATIMER, LL.B.....Professor of Law
 EDWARD RHODES STITT, A.B., M.D....Professor of Tropical Medicine
 MERTON LEROY FERSON, A.M., LL.B.....Professor of Law
 RAY SMITH BASSLER, Ph.D.....Professor of Geology
 FRANK LEECH, M.D.....Clinical Professor of Medicine
 WILLIAM PHILLIPS CARR, M.D.....Clinical Professor of Surgery
 HURON WILLIS LAWSON, S.M., M.D.....Professor of Obstetrics
 FRANK ADELBERT HORNADAY, S.B., M.D.,
 Professor of Physiological Chemistry
 JOSEPH DUERSON STOUT, Ph.D., M.D. (On leave of absence 1916-17)
 Professor of Pharmacology and Associate Professor of Physiology
 HENRY KNOX CRAIG, M.D.....Librarian, Medical School Library
 and Curator of the Medical School Museum
 THOMAS CHARLES MARTIN, M.D.....Professor of Proctology
 MARCUS WARD LYON, JR., Ph.D., M.D.
 Professor of Bacteriology and Pathology
 ROBERT RUSS KERN, A.B.....Professor of Economics and Sociology
 ALBERT LEWIS HARRIS, B.S. in Arch.....Professor of Architecture
 EDWARD LYMAN MUNSON, A.M., M.D.,
 Professor of Preventive Medicine
 HARRY HYLAND KERR, M.D.....Clinical Professor of Surgery
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 Professor of Hygiene and Clinical Associate in Obstetrics
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 Professor of Oral Surgery
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 RICHARD COBB, A.B.,
 Secretary of the University and Professor of English
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 ROBERT LLOYD ELLER, D.D.S.,
 Professor of Radiography and Oral Prophylaxis
 TRUMAN ABBE, M.D.....Professor of Roentgenology
 ISRAEL SCHAPIRO, Ph.D., Professor of Semitic Languages and Literature

ASSOCIATE PROFESSORS

- CHARLES TURK BASSETT, D.D.S.
 Associate Professor in Charge of Dental Infirmary

- WILLIAM FRANCIS LAWRENCE, D.D.S.,
Associate Professor of Prosthetic Technics
- D. DE WITT BEEKMAN, D.D.S., . . . Associate Professor of Materia Medica and Therapeutics, in Charge of Dental Infirmary
- EUGENE ROGER STONE, D.D.S. . . . Associate Professor of Oral Surgery
- JAMES WALTER BERNHARD, D.D.S.
Associate Professor of Crown and Bridge Work
- WALTER LOWELL HAGAN, D.D.S.
Associate Professor of Operative Technics
- JAMES HAROLD COLLINS, A.M., M.D. . . Associate Professor of Pharmacology and Physiology
- CHARLES GARDNER SHOEMAKER, D.D.S.
Associate Professor of Operative Technics
- WILLIAM CARL KILLINGER, D.D.S. . . Associate Professor of Orthodontia

ASSOCIATES

- DANIEL WEBSTER PRENTISS, M.D. Clinical Associate in Surgery
- JOHN BENJAMIN NICHOLS, M.D. Associate in Medicine and Dietetics
- EDGAR PASQUAL COPELAND, M.D. Associate in Pediatrics
- HARRY HAMPTON DONNALLY, A.M., M.D.,
Clinical Associate in Pediatrics
- HENRY RANDALL ELLIOTT, M.D. Associate in Physiology
- J. LEWIS RIGGLES, M.D. Associate in Gynecology
- WILLIAM CABELL MOORE, M.D. Associate in Medicine
- CHARLES AUGUSTUS SIMPSON, M.D. . . Clinical Associate in Dermatology
- COURSEN BAXTER CONKLIN, M.D. Associate in Medicine
and Anaesthesia
- JOSEPH DECATUR ROGERS, M.D.,
Clinical Associate in Obstetrics and Surgery
- ROBERT YOUNG SULLIVAN, M.D. Clinical Associate in Obstetrics
- CHARLES WHEATLEY, M.D. Clinical Associate in Pediatrics
- DANIEL LE RAY BORDEN, S.B., M.D.,
Associate in Surgery and Gynecology
- CHARLES WILBUR HYDE, M.D. . . Associate in Medicine and Anaesthesia
- WILLIAM JOHNSTON MALLORY, A.M., M.D. Associate in Medicine
- ALBERT ELWOOD PAGAN, M.D. . . Associate in Gynecology and Obstetrics

ASSISTANT PROFESSORS

- NEVIL MONROE HOPKINS, Ph.D. Assistant Professor of Chemistry
- EDWIN ALLSTON HILL, Ph.D. Assistant Professor of Chemistry
- OTIS DOW SWETT, S.M., LL.M. Assistant Professor of Chemistry
- CHARLES WARD MORTIMER, S.B., M.E.,
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- HIRAM COLVER MCNEIL, Ph.D.,
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Assistant Professor of Law
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GEORGE MORTON CHURCHILL, Ph.D.....Assistant Professor of History
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LOYD HALL SUTTON, S.B., LL.B.....Instructor in Patent Law
WALTON COLCORD JOHN, A.M.....Instructor in Spanish
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LEONARD SMITH DOTEN, B.S. in C.E....Instructor in Civil Engineering
HARRY SAMUEL LEWIS, M.D.....Clinical Instructor in Surgery
JOHN HUNTER SELBY, M.D.....Instructor in Roentgenology
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WILLIAM BROWNE CARR, M.D.Instructor in Morbid Anatomy
HARRY A. BISHOP, M.D.....Clinical Instructor in Neurology
OLIVER CLEMENCE COX, M.D.....Instructor in Minor Surgery
WILLIAM BERRY MARBURY, M.D.....Instructor in Surgery
ALEXANDER WETMORE, A.B.....Instructor in Zoology
SACKS BRICKER, M.D.....Clinical Instructor in Obstetrics
CHARLES WALTER RICH, D.D.S....Instructor in Prosthetic Technics
JOHN PRESTON MARSTELLA, D.D.S...Instructor in Prosthetic Technics
ORVILLE NEWTON FANSLER, D.D.S...Instructor in Prosthetic Technics
JASPER NEWTON ROBERTS, D.D.S....Instructor in Prosthetic Technics
EDWARD EARL GOLDEN, D.D.S...Instructor in Crown and Bridge Work
HENRY MERLE SPILLAN, D.D.S. Instructor in Crown and Bridge Work
SAMUEL HARRISON GREENE, M.D.
Clinical Instructor in Laryngology and Otology
WILLIAM HOUSTON LITTLEPAGE, M.D...Clinical Instructor in Medicine
JAMES ROBERT SCOTT, M.D...Instructor in Bacteriology and Pathology
(Mrs.) VICTORIA BRIGGS TURNER, A.B.....Assistant Librarian
WILLIAM DARRACH HALSEY, A.B.,
Instructor in Mechanical Engineering
WILLIAM MILLER COLLIER, A.M.....Lecturer on Diplomacy
GEORGE WILLIAM RAMSEY, LL.B.....Instructor in Patent Law
DELOS HAMILTON SMITH, B.S. in Arch....Instructor in Architecture
JULES MAILLET.....Instructor in French Conversation
RICHARD KNIGHT THOMPSON, D.D.S....Instructor in Metallurgy,
Instructor in Operative Technics and
Demonstrator in the Dental Infirmary
JAMES CHARLES HASSALL, M.D.,
Instructor in Psychiatry and Clinical Neurology
CHARLES ELMER RESSER, A.M.....Instructor in Geology
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Instructor in Pharmacology and Chemistry

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and Demonstrator in the Dental Infirmary
JOSEPH ALTSHULER FRIEDMAN, D.D.S.,
Instructor in Prosthetic Technics
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HENRY GRATTAN DOYLE, A.M. Instructor in Romance Languages
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Instructor in Education in the Summer School
THOMAS MADDEN FOLEY, M.D. Instructor in Orthopedic Surgery
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Instructor in Archaeology and History of Arts
ROBERT SZOLD, S.B., LL.B. Instructor in Law
CUSTIS LEE HALL, M.D. Clinical Instructor in Orthopedic Surgery
ARTHUR FREDERICK JOHNSON, M.E., Instructor in Naval Architecture
HOWARD FRANCIS KANE, M.D. Instructor in Obstetrics
ROSS McCLOURE CHAPMAN, M.D.,
Instructor in Psychiatry and Neurology
WILLIAM RALPH BUCHANAN, M.D. Instructor in Anatomy
CARROL EDWARD BINGMAN, M.D. Clinical Instructor in Medicine
THOMAS LINVILLE, M.D. Clinical Instructor in Medicine
THOMAS MILLER, JR., M.D. Clinical Instructor in Medicine
SAMUEL BOYCE POLE, M.D.,
Clinical Instructor in Laryngology and Otology
FREDERICK WILLIAM WARDEN, R.A., M.R.C.S., L.R.C.P.,
Clinical Instructor in Surgery

ASSISTANTS AND DEMONSTRATORS

ALFRED GEISES BUHRMAN.....Clerk of the Moot Court
RALPH WEBSTER BENTON, A.B.....Assistant in English
WILLIAM LAWRENCE WANLASS, A.M.....Assistant in History
HENRY ALBERT LEPPER, B.S. in Chem.....Assistant in Chemistry
BOYCE RICHARDSON BOLTON,
Student Assistant in Clinical Chemistry and Clinical Microscopy
THERESA KARGER.....Student Assistant in Chemistry
GEORGE WASHINGTON PHILLIPS, B.S. in Chem.,
Student Assistant in Chemistry
HARRIET UNDERWOOD, A.B.....Laboratory Assistant in Psychology
VIVIAN CAMPBELL KELCHNER ROBEY...Student Assistant in Chemistry
EDWARD JOHN COPPING.....Student Assistant in the Dental Infirmary
ELMER LOUIS KAYSER.....Student Assistant in History
WILLIAM LEOPOLD FRIDRICH PAHL....Student Assistant in Chemistry
HOMER WILLIAM BALL.....Student Assistant in Physics
(Mrs.) ELLA MORGAN AUSTIN ENLWS, A.B.,
Student Assistant in Chemistry

HERBERT HANSERD SHINNICK.....Student Assistant in Chemistry
 BONIFANT HAMILTON.....Student Assistant in Chemistry
 PAUL HENRY BRATTAIN.....Student Assistant in Chemistry
 EVERETT ALBERT HELLMUTH.....Student Assistant in Chemistry
 THOMAS MOREN CAJIGAS.....Student Assistant in Histology
 JOHN BLAKE COPPING.....Student Assistant in the Dental Laboratory
 HANNAH LOUISE GARDNER

Student Assistant in the Arts and Sciences Library

BEVERLY HUMPHREYS HARRIS.....Student Assistant in Architecture
 MARY ELIZA WHEATLEY.....Teacher in the Demonstration School
 LOUIS EUGENE McARTHUR.....Assistant in History
 WATSON DAVIS.....Student Assistant in Physics
 JOHN WILLIAM ROBERTS.....Assistant in Chemistry
 ADOLPH MARTIN SWANSON.....Assistant in Chemistry
 FLORENCE MARIAN FORD.....Student Assistant in Chemistry
 HAROLD NILSSON GIESE.....Student Assistant in Chemistry
 FLOYD E. LEWIS.....Student Assistant in Chemistry
 TREADWAY BARKER MUNROE.....Student Assistant in Chemistry
 NORMAN JOSEPH STOCKETT.....Student Assistant in Chemistry
 WALLACE MASON YATER.....Student Assistant in Chemistry
 JAMES LAWRENCE YOUNG.....Student Assistant in Chemistry
 JAMES KIRKPATRICK, JR.....Student Assistant in Chemistry
 ANNIE MARION CARDWELL,

Student Assistant in the Arts and Sciences Library

MAX RHOADE.....Assistant Librarian in the Law School
 (MRS.) BESSIE ALFARETTA BRUBAKER.....Student Assistant in English
 DETLOW MAINCH MARTINSON.....Student Assistant in English
 JOHN BURTON GLENN.....Student Assistant in History
 NATHAN NORMAN SMILER, Phar. D.,

Student Assistant in Physiological Chemistry

GEORGE HENRY RAWSON.....Student Assistant in Histology
 HERBERT PERCY RAMSEY.....Student Assistant in Medical Chemistry
 JOSEPH KREISELMAN,

Student Assistant in Physiology and Pharmacology

RICHMOND JAMES BECK.....Student Assistant in Chemistry
 CHARLES KSANDA.....Student Assistant in Chemistry
 EINAR WELLEN DIESERUD.....Student Librarian in the Law School

EDUCATIONAL ORGANIZATION

The University comprises:

THE DEPARTMENT OF ARTS AND SCIENCES.

School of Graduate Studies.

Columbian College.

College of Engineering.

Teachers College.

THE DEPARTMENT OF MEDICINE.

Medical School.

Dental School.

THE LAW SCHOOL.

THE ASSOCIATED COLLEGES

National College of Pharmacy.

College of Veterinary Medicine.

ANNUAL COMMENCEMENT

The Annual Commencement is held on the Wednesday following the Wednesday nearest the first day of June. Students who have satisfied the requirements for degrees subsequent to the June Commencement may be awarded degrees at the Fall Convocation on October 25.

THE UNIVERSITY LIBRARY

The University Library comprises the Library of the Department of Arts and Sciences, the Law Library, and the Medical Library. It contains 50,500 volumes.

In addition to its general collections the Library of the Department of Arts and Sciences contains the library of the late Professor Richard Heinzel, of the University of Vienna, containing 7200 books and pamphlets in Germanic philology and literature, and cognate branches; the library of the late Professor Curt Wachsmuth, of the University of Leipzig, containing 7900 books and pamphlets in Greek and Roman literature, archaeology, and history; the Mount Vernon Alcove containing 4000 volumes in political history, international law, and the social sciences. Besides, the library of the American Institute of Architects, consisting of 1063 volumes and portfolios of plates and drawings, is deposited in the reading room as a loan collection, where it is accessible, also, to all local architects. The library is open from 9 a.m. to 10.30 p.m.

The Law Library, containing 7102 volumes, is open from 8.30 a.m. to 10 p.m.

The Medical Library, containing about 3000 volumes, is open from 9 a.m. to 9 p.m.

PRIVILEGES IN GOVERNMENTAL INSTITUTIONS OPEN TO UNIVERSITY STUDENTS

In order to promote research and the diffusion of knowledge, the Congress of the United States has made the scientific resources of the Government accessible to students under the terms of the following joint resolution, approved April 12, 1892:

"Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the facilities for research and illustration in the following and any other governmental collections now existing or hereafter to be established in the city of Washington for the promotion of knowledge shall be accessible, under such rules and restrictions as the officers in charge of each collection may prescribe, subject to such authority as is now or may hereafter be permitted by law, to the scientific investigators and to students of any institution of higher education now incorporated or hereafter to be incorporated under the laws of Congress or of the District of Columbia, to wit:

1. Of the Library of Congress.
2. Of the National Museum.
3. Of the Patent Office.
4. Of the Bureau of Education.
5. Of the Bureau of Ethnology.
6. Of the Army Medical Museum.
7. Of the Department of Agriculture.
8. Of the Fish Commission.
9. Of the Botanic Gardens.
10. Of the Coast and Geodetic Survey.
11. Of the Geological Survey.
12. Of the Naval Observatory."

DEPARTMENT OF ARTS AND SCIENCES

Faculty

Charles H. Johnson, LL.D., President of the University
Robert George Marston, Ph.D., Dean of the University
John and Katherine M. of the College of Agriculture, and Director
of Mathematics

Walter C. Brown, Ph.D., LL.D., Professor of Science

Charles H. Johnson, Ph.D., LL.D., Professor of Science

John and Katherine M. of the College of Agriculture, and Director

of Mathematics

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of Mathematics

PART II

DEPARTMENTS OF THE UNIVERSITY

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DEPARTMENT OF ARTS AND SCIENCES

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 HOWARD LINCOLN HODGKINS, Ph.D.....Dean of the Department of
 Arts and Sciences and of the College of Engineering, and Profes-
 sor of Mathematics
- HERMANN SCHOENFELD, Ph.D., LL.D..... Professor of German
 CHARLES EDWARD MUNROE, Ph.D., LL.D.,
 Dean of the School of Graduate Studies and Professor of Chemistry
- FRANK WIGGLESWORTH CLARKE, Sc.D., LL.D.,
 Professor of Mineral Chemistry
- WILLIAM ALLEN WILBUR, A.M., Litt.D.
 Dean of Columbian College and Professor of English
- CHARLES CLINTON SWISHER, Ph.D., LL.D... Professor of History
 MITCHELL CARROLL, Ph.D.,
 Professor of Archaeology and the History of Art
- PAUL BARTSCH, Ph.D..... Professor of Zoology
 GEORGE NEELY HENNING, A.M..... Professor of Romance Languages
 ALBERT BURNLEY BIBB... Professor of Architecture
 ASAPH HALL, JR., Ph.D..... Professor of Astronomy
 ALBERT MANN, Ph.D..... Professor of Botany
 SHEPHERD IVORY FRANZ, Ph.D., LL.D., M.D.,
 Professor of Experimental Psychology
- CHARLES SIDNEY SMITH, Ph.D..... Professor of Greek and Latin
 WILLIAM CARL RUEDIGER, Ph.D.,
 Dean of Teachers College, and Professor of Educational Psychology
- ALFRED FRANCIS WILLIAM SCHMIDT, A.M.... Professor of German
 WILLIS LUTHER MOORE, Sc.D., LL.D... Professor of Applied Meteorology
 WILLIAM JACKSON HUMPHREYS, C.E., Ph.D.,
 Professor of Meteorological Physics
- EDWARD ELLIOTT RICHARDSON, M.D., Ph.D.... Professor of Philosophy
 GEORGE WASHINGTON LITTLEHALES, C.E., Professor of Nautical Science
 EDWIN VIVIAN DUNSTAN, C.E.... Professor of Civil Engineering
 OSCAR ALEXANDER MECHLIN, C.E..... Professor of Civil Engineering
 RAY SMITH BASSLER, Ph.D..... Professor of Geology
 ROBERT RUSS KERN, A.B..... Professor of Economics and Sociology
 ALBERT LEWIS HARRIS, B.S. in Arch..... Professor of Architecture
 EDWARD LYMAN MUNSON, A.M., M.D.,
 Professor of Preventive Medicine
- DE WITT CLINTON CROISSANT, Ph.D..... Professor of English
 JOAQUIN DE SIQUEIRA COUTINHO, Kt., Sc.D.
 Professor of Portugese Language and Literature
- RICHARD COBB, A.B..... Professor of English

LOUIS COHEN, B.S. in E.E.....Professor of Radio-Electricity
ISRAEL SCHAPIRO, Ph.D.,

Professor of Semitic Languages and Literature

NEVIL MONROE HOPKINS, Ph.D.....Assistant Professor of Chemistry

EDWIN ALLSTON HILL, Ph.D.....Assistant Professor of Chemistry

OTIS DOW SWETT, S.M, LL.M.....Assistant Professor of Chemistry

CHARLES WARD MORTIMER, S.B., M.E.,

Assistant Professor of Electrical Engineering

HIRAM COLVER McNEIL, Ph.D.,

Assistant Professor of Physical Chemistry

LEVI RUSSELL ALDEN, A.M., LL.B.....Assistant Professor of History

BEDFORD BROWN, S.B.....Assistant Professor of Architecture

MORTON C. MOTT-SMITH, Ph.D.....Assistant Professor of Physics

GEORGE MORTON CHURCHILL, Ph.D.....Assistant Professor of History

ROBERT WILBUR MORSE, S.B.,

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WILLARD STANTON SMALL, Ph.D.....Lecturer on Education

HARRY GRANT HODGKINS, A.B.....Instructor in Mathematics

JULIA THECKLA MACMILLAN, S.M.....Instructor in Zoology

CHARLES EDWIN VAN ORSTRAND, S.M.

Lecturer on Mathematical Physics

HARVEY LINCOLN CURTIS, Ph.D.....Lecturer on Physics

MARIETTA STOCKARD, A.B.,

Lecturer on the Teaching of Children's Literature

ARTHUR DEERIN CALL, A.M.Lecturer on Elementary Education

GEORGE TRAVER HARRINGTON, B.S. in Agr., B.S. in Chem.,

Instructor in Botany

WALTON COLCORD JOHN, A.M.Instructor in Spanish

EDGAR LEE HEWETT, D.Soc.....Lecturer on Archaeology

LEONARD SMITH DOTEN, B.S. in C.E.....Instructor in Civil Engineering

FRANK ANDREWS, A.B.....Lecturer on Transportation

ALEXANDER WETMORE, A.B.....Instructor in Zoology

WILLIAM DARRACH HALSEY, A.B., Instructor in Mechanical Engineering

WILLIAM MILLER COLLIER, A.M.....Lecturer on Diplomacy

DELOS HAMILTON SMITH, B.S. in Arch.....Instructor in Architecture

JULES MAILLET.....Instructor in French Conversation

CHARLES ELMER RESSER, A.M.....Instructor in Geology

WALDO LASALLE SCHMITT, S.B.....Instructor in Zoology

HENRY GRATTAN DOYLE, A.M..... Instructor in Romance Languages
GERTRUDE RICHARDSON BRIGHAM, Ph.D.,
Instructor in Archaeology and History of Art
ARTHUR FREDERICK JOHNSON, M.E.. Instructor in Naval Architecture

Faculty of the School of Graduate Studies

President Stockton, Dean Munroe, Professors Hodgkins, Schoenfeld, Clarke, Wilbur, Swisher, Carroll, Bartsch, Henning, Hall, Mann, Franz, Smith, Ruediger, Schmidt, Moore, Humphreys, Richardson, Littlehales, Dunstan, Mechlin, Bassler, Kern, Munson, Croissant; Lyon, Schapiro; Assistant Professors Hopkins, E. A. Hill, Mortimer, McNeil, Alden, Mott-Smith, Churchill, Noyes, Morse, C. E. Hill, Lapham, Rutter, Messrs. Small, Van Orstrand, Curtis.

Faculty of Columbian College

President Stockton, Dean Wilbur, Professors Hodgkins, Schoenfeld, Munroe, Swisher, Carroll, Bartsch, Henning, Bibb, Smith, Ruediger, Schmidt, Richardson, Bassler, Kern, Croissant, Cobb; Assistant Professors Swett, Alden, Mott-Smith, Woodward, C. E. Hill, Rutter, Miss Macmillan, Messrs. Harrington, John, Wetmore, Resser, Doyle.

Faculty of College of Engineering

President Stockton, Dean Hodgkins, Professors Schoenfeld, Munroe, Wilbur, Henning, Bibb, Schmidt, Dunstan, Bassler, Harris; Assistant Professors Swett, Mortimer, Alden, Brown, Morse, Mott-Smith, Woodward, Lapham; Messrs. Doten, Halsey, Smith, Resser, Doyle, Johnson.

Faculty of Teachers College

President Stockton, Dean Ruediger, Professors Hodgkins, Schoenfeld, Munroe, Wilbur, Swisher, Bartsch, Henning, Smith, Schmidt, Richardson, Bibb, Croissant, Cobb; Assistant Professors Alden, Mott-Smith, C. E. Hill; Messrs. Small, Call; Miss Stockard, Mr. Doyle.

SCHOOL OF GRADUATE STUDIES

HIGHER DEGREES

The higher degrees conferred in course by the University in this Division of the Department of Arts and Sciences are Master of Arts (A.M.), Master of Science (S.M.), Civil Engineer (C.E.), Electrical Engineer (E.E.), Mechanical Engineer (M.E.), and Doctor of Philosophy (Ph.D.).

ADMISSION

Candidates for admission to courses for higher degrees must make application to the Dean of the School of Graduate Studies on application blanks, which may be obtained of him. Candidates must present the diplomas they hold, or certificates that they have received such diplomas, together with catalogues of the institutions from which they hold their degrees and certificates of their course of study at such institutions. All such applications should be accompanied by testimonials as to character and scholarship.

DEGREES OF MASTER OF ARTS AND MASTER OF SCIENCE

To be admitted to candidacy for the Master's degree a student must have completed a liberal undergraduate course of study such as is required by colleges of good standing antecedent to the baccalaureate degree. The Faculty of Graduate Studies reserves the right to decide in all cases whether the antecedent training fulfills the requirements. Moreover, the course of study pursued must have been such as to qualify the candidate for pursuing the subjects chosen for the Master's or other higher degree sought. In seeking admission the applicant must state whether he desires to obtain the Specialist degree or the Liberal Culture degree.

The Specialist degree is designed for students who propose to proceed toward the Doctor of Philosophy degree. Such candidates are required to complete one major and two minor subjects selected from properly correlated and approved University subjects and to present a satisfactory thesis, all amounting in value to not less than thirty semester-hours of work. Only one of the minor topics may be selected from the University subject which includes the major topic. Work for which this degree has been awarded may be credited as one year of work toward the Doctor of Philosophy degree, provided that it be in the same field of work.

The Liberal Culture degree is designed for students who do not intend to specialize in their work. Such candidates are required to complete a course of study amounting to not less than thirty semester-hours of work distributed among three approved University subjects, not more

than eighteen semester-hours of which shall be given to any one subject. The candidate must also present a thesis in the field to which the major subject belongs which shall count for not more than six of the required thirty credits.

A candidate for a Master's degree must pass at least one full year in residence and study at this University, and no work done in satisfaction of the requirements for the Bachelor's degree shall be counted again for a higher degree.

HIGHER DEGREES IN ENGINEERING

To be admitted to candidacy for higher degrees in Engineering a student must have completed a liberal undergraduate course of study such as is required by colleges of good standing antecedent to the baccalaureate degree in Engineering, and of such a character as to fit him to pursue to advantage the study of advanced engineering topics. The Faculty of Graduate Studies reserves the right to decide in all cases whether the antecedent training fulfills the requirements. Moreover, the courses of study pursued for the Bachelor's degree must be approved by the Faculty as qualifying the candidate for pursuing the chosen line of study for the degree sought.

A candidate for a degree in Engineering shall pass at least one full year of residence and study at this University, sustain satisfactory examinations on the studies pursued, and present an acceptable thesis, together with a bibliography which shall count for not more than six credits. Three approved full courses totaling with the thesis not less than thirty semester-hours is the minimum required as constituting a full year's work.

DEGREE OF DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy is conferred upon a student who has pursued specialized courses in university subjects for a period of not less than three years, has engaged in research under university auspices, has submitted an acceptable thesis, and has met all the requirements prescribed. The degree is given for high attainments and proved ability to do research work in some special branch of knowledge, as determined by the various tests applied.

Before a student can be admitted to candidacy for this degree he must give evidence that he has completed a liberal undergraduate course of academic study such as is required by colleges of good standing antecedent to the baccalaureate degree, and of such a character as to fit him to pursue to advantage researches in the field chosen for his graduate work. The Faculty of Graduate Studies reserves the right to decide in all cases whether the antecedent training fulfills the requirements. The applicant may be credited with graduate work done at other universities, provided such work is shown to be of grade similar to that required here, but one year, preferably the last, must be spent in

residence at this University and the other requirements of the degree as prescribed must be fulfilled.

The candidate for the Doctor's degree shall offer three topics from the University subjects—one major and two collateral minor studies, one of which minors may be in the subject which includes the major topic. These must be pursued under the guidance of a committee consisting of the professors in charge of the University subjects in which the studies are pursued, with the professor in the major subject as chairman. This committee will determine his division of time, study, and research among the major and minor topics. The candidate shall pass satisfactory examinations upon the three subjects selected. He must satisfy the Faculty that he can read understandingly in the original, French and German works pertaining to his special field. In order to graduate the candidate must possess a broad acquaintance with his major subject and he must present a thesis upon some topic approved by the professor in charge of his major subject, which shall be a contribution to knowledge and which shall be accompanied by an adequate bibliography.

EXAMINATIONS

Candidates must pass examinations upon all their topics. The examinations upon the minor topics may be taken at the close of the respective years in which these topics are completed, or later, at the discretion of the examiner. The final examination on the major topic shall cover the candidate's entire university work, and shall be given when the professor of that subject is satisfied that the student has taken sufficient work to warrant such an examination being taken. If a candidate has satisfactorily passed his final examination, he may be permitted to complete his thesis away from the University.

DEFENSE OF THE THESIS

Before a candidate can be recommended to the Board of Trustees for the Doctor of Philosophy degree, he must have successfully defended his thesis in public before a Board of Experts not officially connected with the University. Before the candidate can be permitted to undertake the defense of his thesis, the thesis must have been favorably reported on and recommended for defense by the professor having supervision over the candidate's major topic, and by a co-referee appointed from the Faculty of Graduate Studies.

The subjects from which the candidate's selection may be made, as the Faculty may determine in each case, are as follows:

Applied Mathematics, Archaeology, Architecture, Anatomy, Astronomy, Astro-Physics, Bacteriology, Botany, Chemistry, Economics, Education, Civil Engineering, Electrical Engineering, Hydraulic Engineering, Mechanical Engineering, English, Ethics, Geology and Mineralogy, Germanic Languages and Literature, Greek Language and Literature, Gynecology, Histology, Embryology, History, History of

Art, History of Science, International Law and Diplomacy, Latin Language and Literature, Law, Mathematics, Meteorology, Microscopy, Nautical Science, Paleontology, Pathology, Philosophy, Physics, Physiology, Pharmacology, Political Sciences, Preventive Medicine, Psychiatry, Psychology, Romance Language and Literature, Semitics, Sociology, Zoology.

REGULATIONS REGARDING THESES

All theses in their final form must be presented to the Dean on the dates announced in the University Calendar. They must be typewritten on official thesis paper, which may be obtained from the Treasurer of the University. The thesis will be presented by the Dean to the Chairman of the Committee on the candidate and, also in the case of a thesis from a candidate for the Ph.D. degree, to the co-referee appointed from and by the Faculty for examination as to its merits when, on a favorable report by them, it may be defended in the Public Disputation. After their acceptance, theses, with their accompanying drawings, are the property of the University, and must be deposited in the University archives, but the authors of them are permitted to make copies. The candidate for the degree of Doctor of Philosophy shall arrange, to the satisfaction of the Faculty, to print his thesis under the supervision of the professor in charge of his major subject, within one year after the degree is granted, and he shall present one hundred copies to the University, to be distributed among institutions of learning.

DOCTORATE DISPUTATIONS

The Thirtieth Doctorate Disputation was held publicly on May 15, 1916. The theses that were successfully defended, the candidates and the members of the boards of experts were as follows:

Thesis: The Legend of Romance. By GERTRUDE RICHARDSON BRIGHAM, A.B., 1913, A.M. 1914, George Washington University. Before W. H. HOLMES, Archaeologist, Curator National Gallery of Art; M. ELLSWORTH OLSEN, Ph.D., Professor of English, Washington Missionary College; GEORGE WILLIAMSON SMITH, S.T.D., LL.D., D.D., former President of Trinity College. WILLIAM ALLEN WILBUR, A.M., Professor of English, presiding.

Thesis: Studies in Actinochemistry. By HORACE HATCH CUSTIS, A.B., 1906, Johns Hopkins University, A.M. 1908, George Washington University. Before GEORGE W. COGGESHALL, Ph.D. Assistant Director, Institute of Industrial Research; RICHARD F. JACKSON, A.B., Assistant Physicist, Bureau of Standards; CARL O. JOHNS, Ph.D., Organic Chemist, Department of Agriculture. HIRAM COLVER MCNEIL, Ph.D., Assistant Professor of Physical Chemistry, presiding.

Thesis: The Bird Life of Texas. By HARRY CHURCH OBERHOLSER, A.B., 1914, M.S., 1914, George Washington University. Before A. K. FISHER, M.D., Ornithologist in charge economic investigations, U. S. Biological Survey; LIEUTENANT-COLONEL EDGAR A. MEARNs, Medical Corps U. S. A., Associate in Zoology. U. S. National Museum; E. W. NELSON, Assistant Chief Biological Survey, Department of Agriculture. PAUL BARTSCH, Ph.D., Professor of Zoology, presiding.

Thesis: The Common House-fly (*Musca domestica* Linn.); A brief consideration of its anatomy, life-history, and bionomics with particular reference to the rôle of the house-fly in the spread of infectious diseases. By JAMES ROBERT SCOTT, A.B., 1908, University of California; M.D., 1912, Leland Stanford University (Cooper Medical). Before RUPERT BLUE, M.D., D.Sc., D.P.H., Surgeon General, U. S. Public Health Service; L. O. HOWARD, M.D., Ph.D., LL.D., Chief, Bureau of Entomology, Department of Agriculture; CH. WARDELL STILES, M.D., Ph.D., LL.D., D.Sc., Lecturer on Medical Zoology, Johns Hopkins University. MARCUS WARD LYON, M.D., Ph.D. Professor of Bacteriology and Pathology, presiding.

Thesis: The analysis of permissible explosives. By CHRISTIAN GEORGE STORM, B.S., 1898, M.S., 1899, Columbian University. Before ALTON L. KIBLER, Ph.D., Chief Chemist, Picatinny Arsenal, War Department. G. W. PATTERSON, B.S., Powder Expert, Navy Department. WALTER O. SNELLING, Ph.D., Research Chemist. FRANK WIGGLESWORTH CLARKE, ScD., LL.D., Professor of Mineral Chemistry, presiding.

Thesis: On the functions of the cerebral motor cortex. By MILDRED ESTHER SCHEETZ, M.D., 1912, University of Iowa, B.E., 1913, Nebraska State Normal School, M.S. 1913, University of Iowa. Before FRANK BAKER, M.D., Ph.D., LL.D., Professor of Anatomy, Georgetown University; FRANCIS A. TONDORF, S.J., Professor of Physiology, Georgetown University; JOHN B. WATSON, Ph.D., Professor of Psychology, John Hopkins University. SHEPHERD IVORY FRANZ, Ph.D., Professor of Physiology and Experimental Psychology, presiding.

THE COLLEGES

The College session of 1917-18 begins Wednesday, September 26, 1917.
The Colleges are open to men and women.

ADMISSION

Every applicant for admission is required to present a certificate of standing and regular dismissal from the school or college which he has last attended.

Candidates for admission to the Freshman Class may present certificates of admission or take an examination in the required subjects. Certificates, in lieu of any or all examinations, will be accepted from schools whose work is attested by well-prepared students admitted to the University in previous years, and from schools that present evidence of affording adequate preparation in the required subjects. The Secretary of the University will, on application, furnish certificate blanks to the principals of such accredited schools.

The certificates of the College Entrance Examination Board will be accepted.

The requirement for admission is a four-year high-school course, or its equivalent, amounting to fifteen "units." For prescribed studies see the specifications of each college.

A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work.

ENTRANCE EXAMINATIONS

The regular examinations for admission are held in May.

The following is the schedule for 1917:

Friday, May 25, 1917

Elementary Latin.....	9.00-11.00
Plane Geometry.....	11.00- 1.00
Physics.....	2.00- 4.00
Greek.....	2.00- 5.00

Saturday, May 26

Elementary Algebra.....	9.00-11.00
Elementary French.....	11.00- 1.00
Elementary German.....	2.00- 4.00
Ancient History.....	4.00- 6.00

Monday, May 28

Plane Trigonometry.....	9.00-11.00
Advanced French, Advanced German.....	11.00- 1.00
English.....	2.00- 5.00

Tuesday, May 29

Advanced Algebra.....	9.00-11.00
Solid Geometry.....	11.00- 1.00
Chemistry; Advanced Latin.....	2.00- 4.00

Subjects offered for admission, but not named in the schedule of examinations, will be arranged for as occasion arises.

Unless admitted by certificate, every undergraduate candidate for a degree is required to pass an examination.

Candidates from the Washington high schools for the Kendall and the University Scholarships will be examined on nine and one-half units. These units upon which the examination will be given are the following: the specified subjects—English (three units), Mathematics (two and one-half units), and one other language (two units); the remaining two units will be in language, history, mathematics, physics, chemistry, biology—as the candidate shall elect. The remainder of the fifteen units must be certified from the high schools.

DEFINITION OF REQUIREMENTS

English

(Three units)

The requirement in English is that recommended by the National Conference on Uniform Entrance Requirements in English.

However accurate in subject matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling or other essentials of good usage.

The examination will be divided into two parts:

1. Grammar and Composition

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relations of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English, which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words per hour.

2. Literature

The examination in literature will include:

A. *Reading*.—General questions designed to test such a knowledge and appreciation of literature as may be gained by an intelligent reading of at least two books under each of five groups as follows: Group I—Classics in Translation (a selection from any other group may be substituted for this), Group II—Shakespeare, Group III—Prose Fiction, Group IV—Essays, Biography, etc., Group V—Poetry. Other books than those named in the Uniform Entrance Requirement list will be accepted under each group, provided the books are of standard literary character. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but the books named in this list will not be made the basis of detailed questions.

B. *Study*.—The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I—DRAMA

Shakespeare: Julius Caesar, or Macbeth, or Hamlet.

GROUP II—POETRY

Milton: L'Allegro, Il Penseroso, and either Comus or Lycidas.

Tennyson: The Coming of Arthur, The Holy Grail, and The Passing of Arthur.

The selections from Wordsworth, Keats and Shelley in Book IV of Palgrave's Golden Treasury (First Series).

GROUP III—ORATORY

Burke: Speech on Conciliation with America.

Macaulay's Two Speeches on Copyright, and Lincoln's Speech at Cooper Union.

Washington's Farewell Address and Webster's First Bunker Hill Oration.

GROUP IV—ESSAYS

Carlyle: Essay on Burns, with a selection from Burns's Poems.

Macaulay: Life of Johnson.

Emerson: Essay on Manners.

A test on the books prescribed under the *Study* groups will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient quali-

ties of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

For the George Washington University Scholarship Entrance Examinations the books for *Reading* and *Study* will be the required English of the Washington High Schools.

Latin

Elementary (two units)

a. I. Latin Grammar: The inflections; the simpler rules for composition and derivation of words; syntax of cases and the verb; structure of sentences in general, with particular regard to relative and conditional sentences, indirect discourse, and the subjunctive.

II. Latin Prose Composition: Translation into Latin of detached sentences and easy continuous prose based on Caesar.

b. Caesar: Any four books of the Gallic War, preferably the first four.

Advanced (two units)

a. Cicero: Any six orations from the following list, but preferably the first six mentioned. The four orations against Catiline, Archias, the Manilian Law, Marcellus, Roscius, Milo, Sestius, Ligarius, the Fourteenth Philippic.

b. Virgil: The first six books of *Æneid*.

c. Advanced Prose Composition, consisting of continuous prose of moderate difficulty based on Cicero.

d. Sight Translation, based on prose of no greater difficulty than the easier portions of Cicero's orations.

Greek

Elementary (two units)

a. I. Greek Grammar: The topics for the examination in Greek grammar are similar to those detailed under Latin grammar.

II. Greek Prose Composition, consisting principally of detached sentences to test the candidate's knowledge of grammatical constructions. The examination in grammar and prose composition will be based on the first two books of Xenophon's *Anabasis*.

b. Xenophon: The first four books of the *Anabasis*.

Advanced (one unit)

a. Homer: The first three books of the *Iliad* (omitting II, 494, to end).

b. Sight Translation, based on prose of no greater difficulty than Xenophon's *Anabasis*.

French

Elementary (two units)

Candidates in Elementary French must have a good knowledge of the essential parts of grammar, with stress on pronouns and on regular verbs and the common irregular verbs. They must know the principles of pronunciation; must be able to translate simple English sentences or easy connected prose into French, and to translate accurately ordinary modern French prose. Candidates must have translated not less than 450 duodecimo pages by at least four different authors, of which amount at least one-third must be history. Candidates must have had a two-years' course of five periods per week.

Advanced (two units)

Candidates in advanced French must have partly translated, partly read, in addition to the requirements for Elementary French, at least 1000 pages of difficult French of several different authors, including history, fiction, drama, and poetry. Candidates must have had a four-years' course of five periods per week.

Fraser and Squair's French Grammar or Grandgent's Essentials of French Grammar is recommended.

Spanish

(Two units)

Candidates in Spanish must have a good knowledge of grammar, including syntax, with stress on pronouns and verbs, regular and irregular. They must know the principles of pronunciation. They must be able to translate simple English sentences or easy connected prose into Spanish, and to translate accurately fairly difficult modern Spanish prose and verse. Candidates must have translated not less than 500 pages by at least four different authors, of which amount at least one-fourth must be history or drama. Candidates must have had a two-years' course of five periods per week.

German

Elementary (two units)

Candidates in Elementary German must have had a two-years' course of five periods a week. They must be able to read fluently at sight and to translate easy narrative prose and poetry. An accurate knowledge of the elements of German grammar and the ability to translate simple prose into German are requisite. About 300 pages of graduated narrative prose, one short play, and such poetry as is usually found in a First Reader will be considered an adequate preparation.

Advanced (two units)

Candidates in Advanced German must have had a four-years' course of five periods a week. They should be well trained in the syntactical laws of the language, have read about 800 pages of good literature in prose, preferably such prose works as are given in the Report of the Committee of Twelve of the Modern Language Association, and poetry, especially dramas by Lessing, Schiller, and Goethe, and studied an elementary history of German literature. German composition should comprise a number of short themes upon assigned historical or literary topics, lives of the authors read, etc.

History

In this subject special importance is attached to preparation in geography.

Ancient (one unit)

a. Greek History, through the Roman Conquest; as much as is contained in Myer's, Bottsford's, or West's History of Greece.

b. Roman History; as much as is contained in Allen's, Bottsford's or West's History of the Roman People.

Mediaeval and Modern European History (one unit)

As much as is contained in Myer's History of Mediaeval and Modern Europe.

English History (one unit)

As much as is contained in Larned's or Cheyney's History of England.

American History with the Elements of Civil Government (one unit)

As much as is contained in Fiske's History of the United States, and Fiske's Civil Government.

*Mathematics**Elementary Algebra (one and one-half units)*

I. Algebra to Quadratics: The four fundamental operations for rational algebraic expressions, factoring, highest common factor, lowest common multiple, complex fractions, the solution of equations of the first degree containing one or more unknown quantities, radicals, including the extraction of the square root of polynomials and numbers, and fractional and negative exponents.

II. Quadratics, etc.: Quadratic equations and equations containing one or more unknown quantities that can be solved by the methods of quadratic equations, problems depending upon such equations, ratio and proportion, and the binomial theorem for positive integral exponents.

Advanced Algebra (one-half unit)

The progressions; the elementary treatment of permutations and combinations; the use of four and five place tables of logarithms; undetermined coefficients; the elementary treatment of infinite series, the binomial theorem for fractional and negative exponents; the elementary treatment of the theory of equations.

Plane Geometry (one unit)

General text propositions, including the solution of simple original exercises and numerical problems.

Solid Geometry (one-half unit)

Properties of straight lines and planes, of dihedral and polyhedral angles, of projections, of polyhedrons, including prisms, pyramids, and the regular solids; of cylinders, cones, and spheres; of spherical triangles and the measurement of surfaces and solids.

Plane Trigonometry (one-half unit)

The definitions and relations of the six trigonometrical functions as ratios, proof of important formulas, theory of logarithms and use of tables, solution of right and oblique plane triangles.

Physics*(One unit)*

It is recommended that the candidate's preparation should include:

- a. Individual laboratory work, comprising at least thirty-five exercises well distributed over the subjects of physics.
- b. Instruction by lecture-table demonstrations.
- c. The study of at least one standard text-book, supplemented by the use of many and varied numerical problems. The metric system should be familiar to the student.

The laboratory note-book must be submitted for inspection, whether the candidate is admitted on certificate or by examination.

Chemistry*(One unit)*

The candidate's preparation in chemistry should include:

- a. Individual laboratory work, comprising at least forty experiments of a character analogous to those set forth by the College Entrance Examination Board. The laboratory note-book must be submitted for inspection.
- b. Instruction by lecture-table demonstrations.
- c. The study of at least one modern text-book.

Requirements.—The ground to be covered should include the following: The chief physical and chemical characteristics, the isolation and the recognition of the following elements and the preparation and study of their principal compounds: *Oxygen, hydrogen, carbon, nitrogen, chlorine, bromine, iodine, fluorine, sulphur*, phosphorus, silicon, potassium, sodium, calcium, magnesium, zinc, copper, mercury, silver, aluminum, lead, tin, iron, manganese, chromium.

The more detailed study should be confined to the italicized elements (as such) and to a restricted list of compounds, such as water, hydrochloric acid, carbon monoxide, carbon dioxide, oxides of nitrogen, nitric acid, ammonia, sulphur dioxide, sulphuric acid, hydrogen sulphide, sodium hydroxide, ammonium hydroxide.

Attention should be given to the atmosphere (constitution and relation to animal and vegetable life), flame, acids, bases, salts, oxidation and reduction, crystallization, combining proportions by weight and volume, calculations founded on these and on Boyle's and Charles' laws, symbols, formulas, equations and nomenclature, atomic theory, atomic weights, nascent state, natural groupings of the elements, solution (solvents and solubility of gases, liquids, and solids), strength of acids and bases, conservation and dissipation of energy, chemical energy and electrolysis, and of valence, electrolytic dissociation, osmosis, mass action in a very elementary way. Chemical terms should be clearly understood, and the student should be able to illustrate and apply the ideas that they embody. The theoretical topics are not intended to form separate subjects of study, but to be taught only so far as is necessary for the correlation and explanation of the experimental facts. The facts should be given as examples from various classes and not as isolated things.

Additional Subjects

Certificates will be accepted in botany, zoology, physiology, physiography, political economy, drawing, music, and other accredited subjects in secondary schools.

Manual-training High School Subjects

Technical subjects in manual-training high schools, or schools of similar grade, when duly certified, will be credited as follows:

Shopwork (not exceeding two units), domestic science and domestic art (not exceeding two units).

Business High School Subjects

Commercial subjects in business high schools or schools of similar grade, when duly certified, will be credited to the extent of four units.

ADMISSION TO ADVANCED STANDING

Candidates for admission to advanced classes in any department are examined in all indispensable preliminary studies.

Due credit is given for properly certified courses of study pursued in other colleges and universities.

SPECIAL STUDENTS

All the courses of instruction are open to students of suitable age and attainments who wish, without reference to any degree, to pursue special studies. Candidates must show that they are familiar with the subjects preliminary to the studies which they wish to pursue.

SCHOLARSHIPS AND PRIZES

Applications for scholarships should be filed with the Dean of the College in which the student is to register not later than September fifteenth. All Scholarships except the Kendall Scholarship and the University Scholarships are awarded for one year only but they may be renewed. Any student holding a scholarship who fails to obtain a general average of 85 per cent on the work of any term, or whose deportment is unsatisfactory, will be reported to the President's Council, and in the absence of extenuating circumstances the scholarship will be revoked. All scholarships are awarded by the Faculty of Arts and Sciences on recommendation of its Committee on Scholarships and other University aid.

Scholarships for Competition

The University offers the following scholarships to be awarded on competitive examination given at the time of the May entrance examinations. Holders of these scholarships are expected to pursue a regular course in one of the colleges of the Department of Arts and Sciences. No scholarship is awarded to a candidate whose examination average is below 80 per cent.

Kendall Scholarship.—The Kendall Scholarship, founded by the late Hon. Amos Kendall, is annually conferred on that member of the graduating class of any of the Washington High Schools who attains the highest average in the entrance examinations. This scholarship continues throughout the undergraduate course, and the student holding it pays only the matriculation, library, laboratory, and graduation fees.

University Scholarships.—The University offers also six scholarships, to be awarded annually to members of the graduating classes of any of the Washington High Schools. These scholarships continue throughout the undergraduate course, and students holding them pay only the matriculation, library, laboratory, and graduation fees.

Scholarships for Assignment

Davis Scholarship.—This is the income of a fund of one thousand dollars given to the University in October, 1869, by Hon. Isaac Davis, of Massachusetts.

Mary Lowell Stone Scholarship.—This scholarship was founded by a woman in memory of a woman student of science. It consists of a fund of two thousand dollars, the income from which is to be paid to needy women students of science in the University.

Maria M. Carter Scholarship.—This is the income of a fund of one thousand dollars given to the University in 1871 by Mrs. Maria M. Carter.

Farnham Scholarship.—This is the income of a fund of one thousand dollars given to the University in 1871 by Mrs. Robert Farnham.

Withington Scholarship.—This scholarship was founded in 1830, by the New York Baptist Theological Seminary, to be known as the Withington scholarship. It has an annual stipend in tuition fees of sixty dollars.

Walker Scholarship.—This scholarship was founded in 1824 by William Walker, Esq., of Putnam County, Georgia. It carries an annual stipend of one hundred dollars in tuition fees available for an undergraduate intending to enter the Christian ministry.

Morehouse Scholarship.—This scholarship was founded by Mr. A. Morehouse, of Washington, D. C., in 1861. It carries an annual stipend of sixty dollars in tuition fees available for an undergraduate intending to enter the Christian ministry.

Nellie Maynard Knapp Scholarship Fund.—Established in 1915 by the Columbian women in memory of its president, Mrs. Martin A. Knapp to provide scholarships for women. Application may be made to any of the Deans in the Department of Arts and Sciences.

Henry Harding Carter Scholarships.—These scholarships, founded by Mrs. Maria M. Carter in memory of her husband, Henry Harding Carter, consists of four scholarships of the annual value of fifty dollars each, and may be awarded to deserving students who are preparing for the civil engineering profession.

Admiral Powell Endowment.—The Admiral Powell Endowment was made by Admiral Levin M. Powell, U. S. Navy. The income from this endowment is for the "free education of such young men as may desire to take advantage of the said endowment by way of their preparation for entrance into the Naval Academy at Annapolis, Maryland, or such as may fit them to become mates or masters in the Merchant Marine Service of the United States," and of "such apprentices as, having filled their time in the great steam manufactory establishments of the country, may apply for appointment from civil life in the Steam Engineer Department of the United States Navy." The number of scholarships awarded each year will be determined by the income from the endowment. Each scholarship will entitle the beneficiary to free tuition for one year. Such

special courses of study are offered to each student as will give him the instruction needed to accomplish the purpose for which he is awarded the scholarship.

These scholarships are especially applicable to those who intend to come up for examination as warrant officers in the Engineer Department of the Navy, to warrant officers who are preparing for examination for appointment as Ensign, to persons desiring to enter the Navy as Acting Ensigns for engineering duty, or to those who desire to fit themselves for responsible positions in the mercantile marine.

The subjects to be taken by a student will vary according to his preparation and according to the purpose for which he has been awarded the scholarship, but a year's work can be selected from the following topics:

	HOURS
Navigation and Nautical Astronomy.....	2
Algebra and Geometry.....	3
Trigonometry.....	1½
Mechanical and Machine Drawing.....	4
English.....	3
French.....	3
German.....	3
Spanish.....	3
International Law.....	3
Commercial Geography.....	1
Boilers and Power Plants.....	3
Mechanical Laboratory.....	2
Marine Engineering.....	3
Electrical Engineering.....	6

Ministerial Aid.—The University authorizes the remission of a stated amount in tuition fees, to be called Ministerial Aid, which may be given to students, resident in the District of Columbia or its immediate vicinity in the regular courses of Columbian College, preparing for the ministry and not yet ordained. Any student receiving Ministerial Aid may be called upon for clerical or like work to the extent of not more than one hour a week for every ten dollars of tuition remitted, and of not more than four hours in any one week.

University Aid.—The University authorizes the remission of a stated amount in tuition fees, to be called University Aid, which may be loaned to undergraduate students in regular courses in the Department of Arts and Sciences, whose circumstances warrant pecuniary assistance. Any student receiving University Aid is expected to repay it as soon as possible. In occasional instances he may be enabled, while still a student, to repay it in part or whole through clerical or like service rendered the University.

Columbian Women Loan Fund.—The Columbian Women have established a fund from which money is loaned to women students, preference being given to women who have already begun work in the University

and who need assistance in continuing it. The administration of the fund remains with the Columbian Women.

PRIZES

(Only candidates for degrees may compete for these prizes)

Staughton and Elton Prizes.—The Staughton Prize, for excellence in the Latin Language and Literature, and the Elton Prize, for excellence in the Greek Language and Literature, founded by the Rev. Romeo Elton, D.D., of Exeter, England, consist of two gold medals, annually awarded to the best scholar in each of these languages.

Ruggles Prizes.—The Ruggles Prizes, for excellence in Mathematics, founded by Professor William Ruggles, LL.D., consist of two gold medals, annually awarded upon examination to the best two scholars in Mathematics.

Davis Prizes.—The Davis Prizes, for excellence in Elocution, founded by the Hon. Isaac Davis, LL.D., of Massachusetts, consist of three gold medals, annually awarded to the successful competitors in a public contest. Only members of the Senior Class are eligible to compete for these prizes.

Daughters of the American Revolution Prizes.—These prizes founded by the Daughters of the American Revolution of the District of Columbia, consist of two gold medals, awarded annually to the two students in the graduating class who, having maintained a high standing in the regular courses in Mediaeval, Modern European, English, and American History during three years, shall produce the best essays upon an assigned topic of American history.

The Thomas F. Walsh Prize.—This prize, established by Thomas F. Walsh, Esq., of Colorado, and based upon the income of one thousand dollars, consists of a gold medal awarded annually to that student of the graduating class who, having maintained a high standard in the regular classes of Mediaeval, Modern European, English, and American History, shall produce the best essay upon a designated period of the History of Ireland.

E. K. Cutter Prize.—The E. K. Cutter Prize in English was founded by the late Marion Kendall Cutter. The endowment is a fund of one thousand dollars, the income of which is given annually as a prize "for excellence in the study of English." The prize will be awarded to that member of the graduating class whose record in English, combined with general excellence, shows most marked aptitude and attainment in English studies.

Willie E. Fitch Prize.—The Willie E. Fitch Prize, for highest excellence in all branches of Chemistry, founded by James E. Fitch, Esq., in memory of his son, consists of fifty dollars, which is awarded annually for the best examination in Chemistry.

The Gardiner G. Hubbard Memorial Prize.—This is a prize in American History established by Mrs. Gertrude M. Hubbard in memory of her

husband, the late Gardiner G. Hubbard. The endowment is a fund of one thousand dollars, the income from which is to be given annually to that member of the graduating class who has during four years maintained a high standing in the classes of American History, and who has produced the best essays upon subjects based upon a study of some assigned period of American history.

Muth Prize.—Geo. F. Muth and Company offer a set of drawing instruments to the student who makes the highest record in Mechanical Drawing. (Graphics 1.)

Colonial History Prize.—The Society of the Colonial Dames of America, Chapter III, offers annually a gold medal for excellence in American Colonial History. This prize will be awarded by the professor of History for general excellence in this subject as shown by class standing, by special essays, and by such other tests as shall be prescribed.

James Macbride Sterrett, Jr., Prize.—Founded by Professor James Macbride Sterrett in memory of his son, consists of a gold medal annually awarded to that student taking Course 1 in Physics who obtains the highest average in a special examination on a given subject and in the writing of an essay on an assigned topic.

The Chi Omega Prize in Philosophy.—An annual prize of fifteen dollars is offered by the Phi Alpha Chapter of the Chi Omega Fraternity for the best essay on a philosophical subject to be announced at the close of the preceding academic year by the Committee in charge. Essays must meet the requirements defined by the Committee and be submitted on or before April 1. Only women students who are members of a senior class in the Department of Arts and Sciences, and who are or have been registered in General Psychology, Logic, and the History of Philosophy, are eligible to compete.

Chi Omega Prize in Sociology.—An annual prize of fifteen dollars is offered by the Chi Omega Fraternity for the best essay on a sociological subject. All women students registered in the courses in Sociology are eligible to compete for this prize. The subjects of the essays are to be chosen by the competitors with the approval of the Professor of Sociology. The prize will be awarded by a committee of three, consisting of the Professor of Sociology, the Dean of Columbian College, and a third member selected by these two. Essays in competition for this prize must be submitted to the Professor of Sociology on or before the first of May.

Sigma Kappa English Prize.—An annual prize of a set of books to the value of ten dollars is offered by the Sigma Kappa Fraternity to the student passing the best examination in the year's work in English Rhetoric. All members of the classes in English Rhetoric are eligible for this special examination, which will be given during the final examinations.

Davis Prize Speaking

The Davis Prize Speaking is held on the Tuesday after the Easter holidays. The Davis Prizes were founded by Hon. Isaac

Davis, of Massachusetts, in 1847. The original endowment was five hundred dollars, "proceeds of which will afford three premiums, in cash or gold medals, of the value of five dollars, of ten dollars, and of fifteen dollars annually—these premiums or prizes to be distributed annually to such members of the Senior Class as shall have made the greatest progress in elocution since their connection with the College."

The award of these three prizes is determined by a public speaking contest, in which the participants deliver original orations. Senior students wishing to enter the competition should report to the Dean of Columbian College not later than five weeks before the contest, and submit their orations not later than three weeks before the contest. The prizes are awarded by a committee consisting of three members, selected by the Faculty of the Columbian College.

PRIZE AWARDS, 1915-1916

Davis Prizes.—First Prize, Maximo Manguiat Kalaw; Second Prize, Margaret Morton Knowles; Third Prize, Margaret Sharpless Willits.
Daughters of the American Revolution Prizes.—Luis Herrera Geigel, Louis Eugene McArthur.

Thomas F. Walsh Prize.—Ellen Teresa Burke.

E. K. Cutter Prize.—Marie Ellen Gatchell.

Sigma Kappa Prize.—Margaret Joanna Prentiss.

Gardner G. Hubbard Prize.—Johannes Paul Caemmerer.

Colonial Dames Prize.—Alma Henrietta Preinkert.

Chi Omega Prize in Sociology.—Marie Ellen Gatchell.

Muth Prize.—Carl J. Faist.

HIGH SCHOOL SCHOLARSHIP AWARDS

Kendall Scholarship.—Martha Lucy Waring, Western High School.

First University.—Louis Webster Turoff, Central High School.

Second University.—Margaret Elizabeth Whitford, Central High School.

Third University.—Gretchen Ring, Central High School.

Fourth University.—James Earl Hummer, McKinley High School.

Fifth University.—Harry Ledden Strang, McKinley High School.

Sixth University.—John Paul Earnest, Jr., Western High School.

COLLEGE CHAPEL

Chapel Services are held at 12.20 p.m., Monday, Wednesday, and Friday, throughout the academic year.

The Deans of the Colleges will confer with students as they may desire on questions concerning their welfare and will co-operate with them in all ways to make the college life one of personal helpfulness.

BOARD AND ROOMS

A register of boarding houses is kept by the Treasurer. Accommodations cost from \$25 to \$40 a month.

For catalogues, application blanks, and further information, address

THE SECRETARY,
The George Washington University,
2023 G Street, Washington, D. C.

FEES

1. Matriculation fee (payable once).....	\$5
2. Annual library fee.....	2
3. Tuition fee for each semester-hour credit of courses leading to the degrees of A.B., S.B., A.M., S.M., C.E., E.E., M.E.....	5
The maximum fee charged in any one year is \$150.	
4. Tuition fee per annum for graduate courses leading to the degree of Ph.D.....	150
Each separate topic.....	50
Where candidates for higher degrees exceed the minimum time limit they may be liable for an additional charge of \$50 per annum for each topic pursued by them.	
5. Registration fee for students taking problems of the Beaux Arts Society.....	2
6. Laboratory courses:	
Material fees:	
Experimental Psychology.....	2
Geology 1, Zoology, Botany, each.....	5
Chemistry 2, 3, 7, and 28; Electrical Engineering; Physics, each.....	10
Chemistry 4 (Assaying).....	20
Chemistry, except 2, 3, 4, 7, and 28, each.....	25
Deposits to cover breakage of apparatus issued, the amount paid in excess of breakage to be returned:	
Chemistry, 2, 3, 7, and 28, each.....	10
Chemistry, 20.....	15
Chemistry, except 2, 3, 4, 7, 20, and 28, each.....	25
7. Microscope rental in Botany and Zoology.....	5
8. Tuition fee for the following special course, not taken by candidates for a degree:	
Chemistry 4 (Assaying).....	40
9. Fee for certificates under the seal of the University.....	2
10. Fee for graduation.....	10

No registration will be accepted for less than a half-year, and no change in the courses undertaken at the time of registration will be made unless approved by the Dean. *Withdrawals during a half-year*

will be granted only on recommendation of the Dean and the approval of the President.

PAYMENT OF FEES

Matriculation, library, and other special fees, and laboratory deposits are due in full in advance. Tuition and laboratory material fees may be paid in monthly installments in advance. Students unable to pay their fees monthly in advance will be required to furnish as security an acceptable personal or corporate bond for \$200, for which a charge of \$3. will be made. In every instance all indebtedness must be discharged on or before May 1 of the current academic year. All fees are payable at the office of the Treasurer of the University, 2024 G Street.

COLUMBIAN COLLEGE

ADMISSION

Candidates for admission to the Freshman Class in Columbian College must meet the general admission requirements (p. 53) of fifteen units. A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work. *The fifteen units of the entrance requirement must include English, 3 units; Mathematics, 2½ units; and one of the following languages: Latin, Greek, French, German, or Spanish, 2 units.* The remainder of the requirement is elective and may be satisfied in general by any accredited secondary school subjects.

For admission to advanced standing or as special students, see p. 61.

REQUIREMENTS FOR DEGREES

The undergraduate degrees offered by Columbian College are Bachelor of Arts, and Bachelor of Science in Medicine. To be recommended for either of these degrees, the student must satisfy the admission requirements, and must complete at least one-hundred and twenty semester-hours of undergraduate courses at least twelve semester-hours of which must be completed in Columbian College. A "semester-hour" of credit is one recitation or lecture a week or one laboratory period a week for one semester. No time limit for the course is prescribed and the degree is given when the total of prescribed and elective studies is completed.

The class hours are so arranged that persons who can give only part time to college work may complete a full college course and obtain a degree. Such students usually take six years to complete the course. Classes in required and elective subjects are scheduled in the two class periods from five o'clock to six-forty. The drawing rooms and laboratories are open from nine o'clock in the morning until half past ten at night.

One grade of special distinction is recognized in awarding the bachelor's degree. It is shown by inserting the words "With Distinction" on the diploma after the name of the degree. It is awarded under the following conditions:

"That the names of all students who have received a mark of at least B (90 per cent) on courses representing at least sixty (60) per cent of all hours taken by them be submitted by the Dean to the Faculty of the Department in which the student shall be studying for a degree, after the completion of all final examinations in such students' final year of study for their degree;

"That the Faculty, after separate consideration of each individual case, shall, if it see fit, recommend the awarding of the degree 'With Distinction' to students who shall have fulfilled the conditions above specified."

FOR THE DEGREE OF BACHELOR OF ARTS

To be recommended for the degree of Bachelor of Arts, the student must complete courses of study amounting to at least one hundred and twenty semester-hours and including a group of prescribed subjects.

There are five curriculum groups each leading to the degree of Bachelor of Arts. Every candidate for the degree of Bachelor of Arts selects one of these groups, and thereafter he is not permitted to change to another group except on condition that he fulfill the requirements of the group to which he changes.

The studies of the last two years are elective, subject to such administrative supervision as will insure the general consistency and the liberal character of the courses selected.

The scope of the five curriculum groups is a provision alike for the diversity in the subjects of the secondary school curriculum leading to a college course, and the needs of the various graduate and professional courses of study in the University for which the college course is a preparation.

Group I emphasizes Latin and Greek studies, and it would naturally be taken by students whose preparatory work has included four years of Latin or two years of preparatory Latin supplemented by "Latin B" in college.

Group II emphasizes the Modern Languages, affording to students whose preparation has not included Latin the humanistic influences of the literatures of the Modern Languages.

Group III emphasizes Mathematics and the Natural Sciences, and would naturally be selected by the student whose college preparation has been scientific rather than literary.

Group IV consists of such studies as would constitute needed preparation for the Law School, or further study in the political sciences.

Group V includes all the pre-medical subjects and is specially constituted as a regular college course in preparation for the Medical School.

(NOTE—Whenever in the following groups French or German is taken, if it is elementary, the same language shall be continued the succeeding year.)

Group I, Latin

	SEMESTER HOURS
English.....	12
Foreign Languages.....	18
History.....	12

	SEMESTER HOURS
Latin*.....	12
Mathematics.....	6
Philosophy.....	6
Electives.....	54
	<hr/>
	120

Group II, Modern Languages

	SEMESTER HOURS
English.....	12
French.....	6
German.....	12
History.....	12
Science.....	6
Philosophy.....	6
Political Science or Economics.....	6
Romance Languages.....	6
Electives.....	54
	<hr/>
	120

Group III, Natural Science

	SEMESTER HOURS
English.....	6
History.....	6
Mathematics.....	12
Modern Languages.....	12
Philosophy.....	6
Science.....	18
Electives.....	60
	<hr/>
	120

Group IV, Political and Social Science

	SEMESTER HOURS
Economics and Political Science.....	18
English.....	12
History.....	12
Mathematics.....	6
Foreign Languages.....	12
Philosophy.....	6
Electives.....	54
	<hr/>
	120

* Students who offer only the two elementary units of Latin for admission may qualify for Group I by taking "Latin B" in college (see p. 100); but this will not be counted as a part of the twelve semester-hours of Latin required in this Group.

Group V, Medical

	SEMESTER HOURS
Chemistry, 1 and 2, 3 and 23.....	18
English.....	12
History.....	6
Mathematics.....	6
French or German.....	12
Philosophy.....	6
Physics, 3 and 2.....	10
Zoology, 1 and 2.....	12
Electives.....	38
	<hr/> 120

SIX-YEAR COURSE FOR THE DEGREES OF BACHELOR OF ARTS
AND BACHELOR OF LAWS

Professional courses in Law will be credited towards the degree of Bachelor of Arts to the extent of thirty semester hours. On the completion of ninety semester hours of work in college, at least twelve semester hours of which must be taken in Columbian College, including all of the required subjects in some one of the curriculum groups, and of the first year of the regular course in the Law School, the student will receive the degree of Bachelor of Arts. This combined course contemplates three years of college study and three years in the Law School. The effect is to shorten the period of study for the two degrees one year.

SEVEN-YEAR COURSE FOR THE DEGREE OF BACHELOR OF ARTS
AND DOCTOR OF MEDICINE

Professional courses in Medicine will be credited towards the degree of Bachelor of Arts to the extent of thirty semester hours. On the completion of ninety semester hours of credit in college, at least twelve semester hours of which must be taken in Columbian College including all of the required subjects in Group V, and on the completion of the first year of the regular course in the Medical School, the student will receive the degree of Bachelor of Arts. This combined course contemplates three years of college study and four years in the Medical School. The effect is to shorten the period of study for the two degrees one year.

POLITICAL SCIENCE COURSES

Columbian College offers systematic instruction in the various branches of the political sciences.

The courses are designed to impart general culture and a broad grasp of public questions, and thus to provide a training that will

prove of value in commercial life, the practice of law, or public service. The work prescribed is broader than the requirement for entrance into the Consular and Diplomatic Service, so that the student who completes with credit the appropriate courses has a training that will fit him to rise to the higher positions in the service to which he may be appointed.

Regular students who are preparing for the Government Service should register for Group IV of the curriculum requirements for the degree of Bachelor of Arts, and should elect, also, the subjects named in Section 2 of the "Regulations Governing Examinations Promulgated by the Board of Examiners, December 13, 1906."

Special students who are preparing for the Consular Service examinations should register for such courses as relate to subjects named in Section 2, of the Government Regulations.

**REGULATIONS GOVERNING EXAMINATIONS PROMULGATED BY THE
BOARD OF EXAMINERS, DECEMBER 13, 1906**

Section 2 reads as follows: The examinations will consist of an oral and a written one, the two counting equally. The object of the oral examination will be to determine the candidate's business ability, alertness, general contemporary information, and natural fitness for the service, including moral, mental, and physical qualifications, character, address, and general education and good command of English. In this part of the examination the applications previously filed will be given due weight by the Board of Examiners, especially as evidence of the applicant's business experience and ability. The written examination will include those subjects mentioned in the Executive order, to wit, at least one modern language other than English—French, German, or Spanish;* the natural, industrial, and commercial resources and the commerce of the United States, especially with reference to possibilities of increasing and extending the foreign trade of the United States; political economy, and the elements of international, commercial, and maritime law. It will likewise include American history, government, and institutions; political and commercial geography; arithmetic (as used in commercial statistics, tariff calculations, exchange, accounts, etc.); the modern history, since 1850, of Europe, Latin America, and the Far East, with particular attention to political, commercial, and economic tendencies. In the written examination, composition, grammar, punctuation, spelling, and writing will be given attention.

Students who seek a designation for consular and diplomatic examination should apply to the Department of State for full information. Consular service examinations are held in Washington only.

**SUGGESTED COURSE FOR THE POLITICAL SCIENCE STUDENT FOR THE
DEGREE OF BACHELOR OF ARTS**

<i>First Year</i>	SEMESTER HOURS
Economics 1 or 2 (General Economics).....	6
English 1 or 2 (English Rhetoric).....	6

*As amended by the Board of Examiners, February 18, 1911.

DEPARTMENT OF ARTS AND SCIENCES

	SEMESTER HOURS
French.....	6
History 1, 2 or 5, 6 (Mediaeval History).....	6
Mathematics, 3 or 6.....	6

Second Year

Economics 22, 23 (General Sociology, Modern Social Problems).....	4
French.....	6
German.....	6
History 3, 4 or 31, 32 (Modern European); 33 (Current History).....	8
Political Science, 1, 3 or 2, 4.....	6

Third Year

Economics, 26, 27 (Public Finance, Money and Banking)...	4
Economics 36 (Commercial Geography and Economic Resources).....	4
French or Spanish.....	6
German.....	6
History (American or English).....	6
Political Science, 6, 8.....	6

Fourth Year

Economics, 33 (Commercial and Maritime Law).....	4
Economics 38, 37 (International Commercial Policy; Transportation).....	4
Economics 40, 41 (Economic History of the United States; Statistics).....	4
History (English or American).....	6
Political Science, 21, 22 or 23, 24.....	6
Political Science 29, 30 (International Law and Elements of Diplomacy).....	4
Psychology and Logic.....	6

SUGGESTIONS FOR FRESHMAN COURSES IN THE CURRICULUM GROUPS

Group I, Latin

Latin 1 or "B", English, History 1, 2 or 5, 6, Mathematics, French or German.

Group II, Modern Languages

French, German, English, History 1, 2 or 5, 6, Chemistry 1 (or Chemistry 1 and 2).

French or German, Spanish, English, History 1, 2 or 5, 6, Mathematics.

French or German, Spanish, English, History 1, 2 or 5, 6, Economics 1 or 2.

Group III, Natural Science

Chemistry 1 and 2, Mathematics, English, French or German, History 1, 2.

Group IV, Political and Social Science

Economics 1 or 2, History 1, 2 or 5, 6, English, French or German, Mathematics.

Economics 1 or 2, Political Science, English, History 1, 2 or 5, 6, Spanish.

Economics 1 or 2, English, History 20, Mathematics, Spanish.

Group V, Medical

Chemistry 1 and 2, Zoology 1, English, French or German, Mathematics.

GENERAL SUGGESTIONS

English Rhetoric (1 or 2) is required in every curriculum group. Mathematics is required in every group except the second, History is a general requirement and it should begin with Mediaeval history, Modern Languages should be taken in a sequence of at least two years in the same language. Information about all studies is given in the alphabetical arrangement of subjects under "Courses of Instruction."

The specified subjects in the selected group should be taken in the earlier part of the college course leaving the electives for the later years. Subjects should be chosen with view to an even distribution through the days of the week. Most courses come three times a week, either on Monday, Wednesday and Friday, or on Tuesday, Thursday and Saturday. Most general culture subjects are given in two sections, one early in the day and one late. Students who have all their time for college work should take the early sections. The late sections are given in the last two periods, at five o'clock or at five-fifty o'clock, in order to afford to those employed in Government offices the opportunities of college study. Teachers in the public schools can usually take also the courses announced for four o'clock.

Fifteen hours a week is a standard amount of work for completing the college course in four years. When the college work is limited to the last two periods and the evening laboratory periods, the length of the course is generally six years.

Detailed information about fees is given on page 67.

FOR THE DEGREE OF BACHELOR OF SCIENCE IN MEDICINE

Six-year Course for the Degrees of Bachelor of Science in Medicine and Doctor of Medicine

Regular students in this course will complete in two years the prescribed work in college, at least twelve semester hours of which must be

taken in Columbian College, and the four-year course in the Medical School. On the completion of this six-year course, the student will receive at the same time the degrees of Bachelor of Science in Medicine and Doctor of Medicine. The curriculum for the Freshman and Sophomore years in college, including the pre-medical requirement, is as follows:

Freshman Year

	SEMESTER HOURS
Chemistry 1 and 2.....	10
English 1 or 2.....	6
French or German.....	6
History or Economics.....	6
Zoology 1.....	6
	<hr/>
	34

Sophomore Year

	SEMESTER HOURS
Chemistry 3 and 23.....	8
French or German.....	6
Philosophy.....	6
Physics 3 and 2.....	10
Zoology 2.....	6
	<hr/>
	36

SPECIAL COURSE FOR ADMISSION TO THE MEDICAL SCHOOL

First Year

	SEMESTER HOURS
Chemistry 1 and 2.....	10
French or German.....	6
Zoology 1.....	6
Electives (preferably English 1 or 2, and History 33).....	8
Total semester hours	<hr/>
	30

Second Year

	SEMESTER HOURS
Physics 3 and 2.....	10
Zoology 2.....	6
Electives (preferably Chemistry 3 and 23, and Philosophy).....	14
Total semester hours	<hr/>
	30

COLLEGE OF ENGINEERING

ADMISSION

Candidates for admission to the Freshman Class in the Civil Engineering, Electrical Engineering, Mechanical Engineering and Chemical Engineering Courses are required to present fifteen units for admission, distributed as follows:

	UNITS
English.....	3
French, German or Spanish.....	2
Plane and Solid Geometry.....	1½
Elementary and Advanced Algebra.....	2
Plane Trigonometry.....	½
Chemistry.....	1
Physics.....	1
Electives.....	4
Total.....	15

Candidates for admission to the Freshman Class in the Chemistry Course are required to present fifteen units for admission, distributed as follows:

	UNITS
English.....	3
French, German or Spanish.....	2
Plane Geometry.....	1
Elementary Algebra.....	1½
Chemistry.....	1
Elective.....	6½
Total.....	15

Candidates for admission to the Freshman Class in the Architectural Course are required to present fifteen units for admission, distributed as follows:

	UNITS
English.....	3
French, German or Spanish.....	2
Plane and Solid Geometry.....	1½
Elementary and Advanced Algebra.....	2
Plane Trigonometry.....	½
Electives.....	6
Total.....	15

For detailed descriptions of the requirements in each preparatory subject see pages 54-60.

For admission to advanced standing or as a special student, see page 61.

COURSES FOR A DEGREE

Six courses of study are offered:

- I. CIVIL ENGINEERING.
- II. ELECTRICAL ENGINEERING.
- III. MECHANICAL ENGINEERING.
- IV. CHEMICAL ENGINEERING.
- V. CHEMISTRY.
- VI. ARCHITECTURE.

These courses occupy four years each, and lead to the degree of Bachelor of Science in Civil Engineering, in Electrical Engineering, in Mechanical Engineering, and in Architecture, respectively. Graduate courses of one year under the Faculty of Graduate Studies of the George Washington University are open to those who receive the appropriate engineering degrees, and lead, respectively, to the degrees of Civil Engineer, Electrical Engineer, and Mechanical Engineer.

The class hours are so arranged that persons who can give only part time to college work may complete a full engineering course and obtain a degree. Such students usually take six years to complete the course. Classes in all the general studies of the engineering courses and in many of the technical subjects are regularly scheduled in the two class periods from five o'clock to six-forty; and other technical courses are given in alternate years in these periods. The drawing rooms and laboratories are open from nine o'clock in the morning until half past ten at night.

REQUIREMENTS FOR A DEGREE

The arrangement of the topics in each of the regular courses for degree is shown below. The numbers following the names of subjects refer to the courses as given in the list of Department Subjects on pages 89-121, to which reference should be made for more complete description.

CIVIL ENGINEERING COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING.

Freshman Year

	SEMESTER-HOUR CREDITS
Chemistry, 1, 7.....	10
General Chemistry and Qualitative Analysis.	
English, 1 or 2.....	6
Rhetoric.	

SEMESTER-HOUR
CREDITS

French, German or Spanish.....	6
Mechanical Drawing, 1.....	4
Mechanical Drawing.	
Mathematics, 9 or 12.....	6
Trigonometry; Analytic Geometry.	

Sophomore Year

Civil Engineering, 1, 3, 4.....	12
Surveying; Highway Engineering; Materials of Construction.	
Economics, 33.....	4
Commercial Law.	
Mechanical Drawing, 8.....	3
Descriptive Geometry.	
Mathematics, 20 or 21.....	6
Calculus.	
Physics, 1, 2.....	10
General Physics; Laboratory Physics.	

Junior Year

Applied Mathematics, 20, 21, 22.....	12
Mechanics; Hydraulics, Mechanics or Materials.	
Astronomy, 2.....	2
Practical Astronomy.	
Chemistry, 6.....	2
Metallurgy.	
Civil Engineering, 2, 22.....	16
Railroad Engineering; Theory of Structures.	
Electrical Engineering, 6.....	2
Industrial Electricity.	
Geology, 21.....	4
Engineering Geology.	

Senior Year

Civil Engineering, 21, 23, 24, 27, 28.....	30
Hydraulic Engineering; Theory of Structures; Sanitary Engineering; Reinforced Concrete; Masonry.	
Elective.....	6

**ELECTRICAL ENGINEERING COURSE LEADING TO THE DEGREE OF
BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING**

Freshman Year

Identical with the Civil Engineering Course

Sophomore Year

	SEMESTER-HOUR CREDITS
Civil Engineering, 4.....	2
Materials of Construction.	
Economics, 33.....	4
Commercial Law.	
Mathematics 20 or 21.....	6
Calculus.	
Mechanical Drawing 2, 8.....	7
Machine Drawing; Descriptive Geometry.	
Mechanical Engineering, 1.....	8
Mechanism.	
Physics, 1, 2.....	10
General Physics; Laboratory Physics	

Junior Year

Applied Mathematics, 20, 21, 22.....	12
Mechanics; Hydraulics; Mechanics of Materials.	
Chemistry, 6.....	2
Metallurgy.	
Electrical Engineering, 1, 2, 4, 5.....	14
Elementary Electricity and Electrical Engineering; Electrical Measurements; Electrical Engineering Laboratory.	
Mechanical Engineering, 9, 20.....	8
Engineering Laboratory; Thermodynamics, Steam Boilers and Power Plant Accessories.	

Senior Year

Civil Engineering, 5, 6.....	2
Surveying Instruments; Foundations.	
Electrical Engineering, 21, 22, 23, 24, 26, 27.....	22
Alternating Currents; Electrical Distribution; Elec- trical Applications; Electrical Engineering Lab- oratory; Electric Lighting; Electric Railways.	
Mechanical Engineering, 10, 23.....	4
Engineering Laboratory; Hydraulic Machinery.	
Electives.....	7

MECHANICAL ENGINEERING COURSE LEADING TO THE DEGREE OF
BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Freshman Year

Identical with the Civil Engineering Course

Sophomore Year

SEMESTER-HOUR
CREDITS

Civil Engineering, 4.....	2
Materials of Construction.	
Economics, 33.....	4
Commercial Law.	
Mathematics, 20 or 21.....	6
Calculus.	
Mechanical Drawing 2, 8.....	7
Machine Drawing; Descriptive Geometry.	
Mechanical Engineering, 1.....	8
Mechanism.	
Physics, 1, 2.....	10
General Physics; Laboratory Physics.	

Junior Year

Applied Mathematics, 20, 21, 22.....	12
Mechanics; Hydraulics; Mechanics of Materials.	
Civil Engineering, 22.....	5
Theory of Structures.	
Mechanical Engineering, 6, 9, 20, 24, 26.....	18
Engineering Drawing; Engineering Laboratory; Thermodynamics, Steam Boilers and Power Plant Accessories; Cotton Machinery and Machine tools; Dynamics of Machinery.	

Senior Year

Chemistry, 6.....	2
Metallurgy.	
Civil Engineering, 5, 6.....	2
Surveying Instruments; Foundations.	
Electrical Engineering, 7.....	6
Dynamos and Motors.	
Mechanical Engineering, 10, 11, 23, 25, 27, 28, 29, 30, 31... ..	22
Engineering Laboratory; Hydraulic Machinery; Machine Design; Power Plant Design; Industrial Management; Heating and Ventilating; Gas Engines; Steam Turbines.	
Electives.....	6

**CHEMICAL ENGINEERING COURSE LEADING TO THE DEGREE OF
BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING**

Freshman year	
	SEMESTER-HOUR CREDITS
Architecture 2.....	2
Free hand Drawing.	
Chemistry 1, 2.....	10
General Chemistry; Laboratory Practice.	
English 1, or 2.....	6
Rhetoric.	
French, German or Spanish.....	6
Mathematics 9 or 12.....	6
Trigonometry; Analytic Geometry.	
Mechanical Drawing, 3.....	4
Mechanical Drawing.	
Sophomore Year	
Chemistry 3, 20.....	10
Chemical Laboratory; Qualitative Analysis.	
Geology 1.....	4
Mineralogy.	
Mathematics 20, or 21.....	6
Calculus.	
Mechanical Engineering 1.....	8
Mechanism.	
Physics 1 and 2.....	10
General Physics; Physics Laboratory.	
Junior Year	
Applied Mathematics 20, 22.....	8
Mechanics; Mechanics of Materials.	
Chemistry 6, 21, 23.....	14
Metallurgy; Quantitative Analysis; Organic Chemistry.	
Economics 33.....	4
Commercial Law.	
Electrical Engineering 1.....	4
Elementary Mathematical Theory of Electricity.	
Mechanical Engineering 20.....	6
Thermodynamics, Steam Boilers and Power Plant Accessories	
Senior Year	
Chemistry 24, 25, 26, 29.....	22
Organic Chemistry; Organic Laboratory; Physical Chemistry; Industrial Chemistry.	
Mechanical Engineering.....	4
Mechanical Laboratory.	
Electives.....	6

**CHEMICAL COURSE LEADING TO THE DEGREE OF BACHELOR OF SCIENCE
IN CHEMISTRY**

Freshman Year

**SEMESTER-HOUR
CREDITS**

Architecture 2.....	4
Freehand Drawing.	
Chemistry 1, 2.....	10
General Chemistry; Laboratory Practice.	
English 1 or 2.....	6
Rhetoric.	
French, German or Spanish.....	6
Mathematics 3 or 6.....	6
College Algebra; Solid Geometry; Elementary Trigonometry.	
Mechanical Drawing.....	2
Mechanical Drawing.	

Sophomore Year

Chemistry 3, 20.....	10
Chemical Laboratory; Qualitative Analysis.	
French, German or Spanish.....	6
Mathematics 9 or 12.....	6
Trigonometry; Analytic Geometry.	
Physics 1 and 2, or 2 and 3.....	10
General Physics; Physics Laboratory.	
Electives.....	4

Junior Year.

Chemistry 21, (4), 23.....	12
Quantitative Analysis; Organic Chemistry.	
Economics 33.....	4
Commercial Law.	
French, German or Spanish.....	6
Geology 1.....	4
Mineralogy.	
Mathematics 20 or 21.....	6
Calculus.	
Electives.....	4

Senior Year

Chemistry 6, 24, 25, 26, 27.....	22
Metallurgy; Organic Chemistry; Organic Laboratory;	
Physical Chemistry; Stereo-Chemistry.	
Geology 2.....	4
General Geology.	
Electives.....	8

COURSE IN ARCHITECTURE LEADING TO THE DEGREE OF BACHELOR OF
SCIENCE OF ARCHITECTURE

Freshman Year

	SEMESTER-HOUR CREDITS
Architecture, 2, 3, 4.....	14
Free-hand Drawing; Architectural Drawing and Ele- mentary Design; Projections, Shades, Shadows and Perspective.	
English, 1 or 2.....	6
Rhetoric.	
French.....	6
Mathematics, 9 or 12.....	6
Trigonometry; Analytic Geometry.	

Sophomore Year

Architecture, 5, 6, 8.....	18
Architectural Design; Free-hand Drawing; History of Architecture.	
English, 7 or 8.....	6
English Literature.	
French.....	6
Geology, 2.....	4

Junior Year

Architecture, 20, 21, 22, 24, 25, 33, 41.....	30
History of Architecture; Building Construction; Sani- tation; Pen and Ink Rendering; Design; Water Color, Heating and Ventilating.	
Physics, 1 or 3.....	6
General Physics.	

Senior Year

Architecture, 27 or 37, 28, 39, 40, 43, 44.....	30
Design; History of Painting and Sculpture; Building Construction; Water Color; Office Practice; Ad- vance Construction.	
Economics, 33.....	4
Commercial Law.	
Electrical Engineering, 26.....	2
Electric Lighting and Illumination.	
Electives.....	2

SPECIAL STUDENTS

All the courses of instruction are open to students of suitable age and attainments who wish, without reference to any degree, to pursue

special studies. Candidates must show that they are familiar with the subjects preliminary to the studies which they wish to pursue.

FEES

The annual tuition fee for a student taking courses aggregating fifteen or more hours a week throughout the year is one hundred and fifty dollars. Part time students pay in accordance with the amount of work taken, the fee being five dollars for each semester-hour credit. For courses in the laboratories there are additional laboratory fees. Full statements in regard to the fees are given on page 67.

TEACHERS COLLEGE

The purpose of Teachers College is to provide (a) collegiate training for teachers, (b) instruction in education as a department of science.

The aims of the Teachers College may be summarized as follows:

- a. To promote the knowledge of educational science.
- b. To fit students for the higher positions in the public school service.
- c. To secure to teaching the rights and prerogatives of a profession.
- d. To aid in raising the standards of educational practice, and so to increase the efficiency of public education.

ORGANIZATION

Teachers College provides a four years' college course, the first two years of which are devoted to a foundation of general culture courses, and the last two to professional courses and to specialization in the subjects which the student expects to teach. The schedule of courses is arranged so as to meet the convenience of both full time and part time students. By attending afternoon and Saturday classes, teachers in the schools of Washington and vicinity may complete all the requirements for a degree without giving up their positions.

ADMISSION

Candidates for admission to the Freshman Class in Teachers College must meet the general admission requirements (p. 53) of fifteen units. *Three of these must be in English, two and one-half in Mathematics, and two in one of the following languages: Latin, Greek, French, German, or Spanish.* The remainder of the required fifteen units may be satisfied by any accredited secondary subjects.

Persons desirous of taking one or more of the professional courses, without becoming candidates for a degree, may be admitted as *special students* on the presentation of satisfactory evidence that they are qualified to pursue the work to advantage.

ADVANCED STANDING

Students transferring from normal schools, colleges, and other schools of similar rank will be admitted to such advanced standing as the courses they have pursued warrant. Graduates of normal schools with two-year courses resting upon graduation from an approved four-year high school are granted forty-eight semester-hours of advanced standing.

For further information concerning admission as special student or to advanced standing, see p. 61.

GRADUATION

On the completion of courses of study aggregating a minimum of one hundred and twenty-four semester-hours, the University confers the degree of Bachelor of Arts and a Bachelor's Diploma in Education. These courses are partly prescribed and partly elective, and the degree is conferred when the necessary work is completed, no time limit being set. The prescriptions are as follows:

a. In general culture subjects:

	SEMESTER HOURS
Biology*.....	6
English.....	6
Foreign Language*.....	12
History*.....	12
Psychology and Logic.....	6
Philosophy.....	6

For the subjects marked with an asterisk () electives may be substituted to the extent that approved secondary school work has been done in them. The foreign language requirement must fall in one language, while in history it is required that a survey of the world's history be obtained.

b. In professional subjects the following twenty semester-hours are prescribed, although teachers of experience may receive credit for Observation and Practice Teaching.

	SEMESTER HOURS
History of Education.....	4
Principles of Education }.....	4
Principles of Teaching }	
School Hygiene.....	2
Observation and Practice Teaching.....	4
Electives in Education.....	6

Graduates of approved normal schools may satisfy the requirement in the professional subjects by the completion of twelve semester-hours exclusive of the credits for Observation and Practice Teaching. These hours are elective with the advice and consent of the Dean.

c. All regular students must complete before graduation at least eighteen semester hours in a major, and at least ten semester hours in a minor subject, in addition to the first required course, if any, in the same subject.

THE TEACHER'S DIPLOMA

The Bachelor's Diploma in Education is granted in connection with the Bachelor of Arts degree (or, to students without experience in teaching, in connection with higher degrees) upon the fulfillment of the following condition: (1) The student must have satisfactorily completed

the courses of study defined above. (2) He must, in the judgment of his instructors, also possess other qualifications essential to success in teaching.

A diploma corresponding to the degree is given also in connection with higher degrees, provided a graduate student has taken a major or minor in Education, has satisfied the requirements *a*, *b* and *c* above, and has had at least two years of successful experience in teaching.

A student holding a degree from an approved college or university may, by satisfying requirements *a*, *b*, and *c* above, earn a diploma without registering for a degree.

OBSERVATION AND PRACTICE TEACHING

A demonstration school which provides ample opportunities for teaching under actual school conditions is being conducted in Saint John's Church Orphanage. The student-teachers are given full responsibility in government and instruction. Through the courtesy of the officials of the public schools, these opportunities are supplemented by systematic observation in the high and elementary schools of Washington.

EXPERIMENTAL WORK

Teachers College maintains a psychological laboratory for introductory experimental work. The equipment is specially adapted to the investigation of problems of interest to students of education.

The school system of a large city, moreover, offers abundant opportunity for observation, and for the study of methods and other practical educational problems.

TEACHERS APPOINTMENT BUREAU

Teachers College maintains a Teachers Appointment Bureau for the purpose of aiding students who are studying, or have studied, in the University, to secure positions as teachers. This service is performed gratuitously, in the interest both of students and of superintendents of schools and boards of education wishing to employ teachers.

COURSES OF INSTRUCTION

PROVIDED BY THE DEPARTMENT OF ARTS AND SCIENCES

Courses of instruction are divided into three sections.

First-section courses may be taken by third or fourth year students only by permission of the Dean and the professor in charge of the subject. They may sometimes be recommended to graduate students, but are not counted toward the higher degrees. The courses in the second section are in general for advanced students, candidates for the bachelor's degree; they serve, however, with additional work, as minors for the higher degrees, provided they have not already counted toward a degree. They may be taken by students in the second year of their course only by special permission of the professor in charge. The courses in the third section are in general for graduate students only, candidates for one or other of the higher degrees. They are open to undergraduates only on the recommendation of the instructors, and no undergraduate student shall take in one year more than one course in the third section. When an announced course has not been applied for by at least three students, candidates for a degree, the instructor may withdraw the course. First-section courses are numbered 1 to 19, inclusive; second-section courses 20 to 49, inclusive; third-section courses, 50 and upwards. The number of hours, unless otherwise specified, indicate hours per week throughout the year. The unit of credit is one hour of recitation or lecture work per week for one semester; laboratory hours in Chemistry and drawing count one-third unit each, in other subjects one-half unit each. Laboratories and drawing-rooms will be open from 9.15 a.m. till 10 p.m., with competent assistants in charge to direct students. No student is admitted to a course unless he fulfills all the preliminary requirements for the course, or otherwise satisfies the instructor that he is prepared to pursue it. Every student must make his election of courses so as to avoid conflict between the hours appointed for recitations.

Under each course is stated the number of credits for which the course is counted toward satisfying the requirements for the undergraduate degrees of Bachelor of Arts and Bachelor of Science or for the graduate degrees of Master of Arts and Master of Science or for the graduate degrees in engineering.

APPLIED MATHEMATICS

EDWIN VIVIAN DUNSTAN, C.E. Professor
LEONARD SMITH DOTEN, B.S. in C.E. Instructor

Second Section. For Undergraduates and Graduates

20. *Analytical and Applied Mechanics.* (1) Statics: including composition, resolution and equilibrium of forces; center of gravity; moment of inertia. (2) Kinematics and Kinetics: including rectilinear, curvilinear and rotary motion; dynamics of machinery; work and energy; friction; impact. Four hours, first half-year. Four semester-hour credits. Professor DUNSTAN.

21. *Hydraulics.*—The theoretical principles of hydraulics: including hydrostatics, flow through orifices, over weirs, through pipes and in open channels, and the dynamic pressure of water. Two hours. Four semester-hour credits. Mr. DOTEN.

22. *Mechanics of Materials and Theory of Elasticity.*—Including elastic and ultimate strength and deformation: simple cantilever and continuous beams, columns, torsion; combined stresses; compound columns and beams, including reinforced concrete; resilience; work; fatigue; mathematical theory of elasticity. Four hours, second half-year. Four semester-hour credits. Professor DUNSTAN.

ARCHAEOLOGY AND HISTORY OF ART

MITCHELL CARROLL, Ph.D. Professor
GERTRUDE RICHARDSON BRIGHAM, Ph.D. Instructor
EDGAR LEE HEWETT, D.Soc. Lecturer

Second Section. For Undergraduates and Graduates

20. *History of Art.*—An introductory course in the history of Architecture, sculpture and painting. Prehistoric, Classical and Renaissance, illustrated by photographs, lantern slides and casts. Wed., Fri., at 4. Two credits. Professor CARROLL.

Third Section. Primarily for Graduates

50. *Pro-Seminary of Art and Archaeology.* a. Classical Art and Archaeology. Three credits. Professor CARROLL. b. History and Appreciation of Painting. Three credits. Dr. BRIGHAM.

51. *American Archaeology.*—In conjunction with the School of American Archaeology in Santa Fe. Three credits. Professor CARROLL and Dr. HEWETT.

Use is made of the illustrative material in the National Museum, the Library of Congress and the Corcoran Gallery of Art. Students are invited to the open meetings of the Art and Archaeology League, and the Washington Society of the Archaeological Institute of America.

ARCHITECTURE

ALBERT BURNLEY BIBB. Professor
ALBERT LEWIS HARRIS, B.S. in Arch. Professor
BEDFORD BROWN, B.S. Assistant Professor
DELOS HAMILTON SMITH, M.S. Instructor

First Section. Primarily for Undergraduates

2. *Freehand Drawing*.—This course consists of drawing, in charcoal, from casts of simple form. Two periods. Four semester-hour credits. Professor BIBB.

Credit for this course may also be obtained by taking work at the Corcoran Gallery of Art.

3. *Architectural Drawing and Elementary Design*.—This course includes the study of the elements of Architecture including the Five Orders, the use of india ink and water color rendering. At least nine hours per week are to be spent by the student in the drafting room. Six semester-hour credits.

Criticisms by Mr. SMITH on Monday, Wednesday and Thursday evenings.

4. *Projections, Shades, Shadows and Perspective*.—A course in orthographic projections, shades and shadows, followed by a short course in the elements of perspective. Two periods. Four semester-hour credits.

Criticisms by Mr. SMITH on Wednesday evenings.

5. *Design*.—Problems of an elementary character are given to prepare the student for work in the Class B order of the Society of Beaux-Arts Architects; the rendering of these problems of this Society. At least twelve hours per week are to be spent by the student in the drafting room. Criticisms by Assistant Professor BROWN on Tuesday, Thursday and Friday evenings. Eight semester-hour credits.

6. *Freehand Drawing*.—Advanced course. A continuation of Course 1, and consists of drawing from architectural cast and life. Two periods. Four semester-hour credits. Professor BIBB.

Credit for this course may also be obtained by taking work at the Corcoran Gallery of Art.

8. *History of Architecture*.—The course is designed to trace the development of the art in Ancient Egypt, in Greece, and in Rome, and through the early Christian, Byzantine, and Mediaeval periods. Tu., Th., Sat., at 5.00. Six semester-hour credits. Professor BIBB.

Second Section. For Undergraduates and Graduates

20. *History of Architecture*.—An advanced course in the architecture of the Renaissance. Tu., Th., Sat., at 5.50. Six semester-hour credits. Professor BIBB.

21. *Building Construction*.—Frame buildings, details of construction, interior finish, three-fourths scale and full size details. One lecture and three hours in drafting room. Four semester-hour credits. Professor HARRIS.

22. *Sanitation*.—History of sanitation; pollution of water sources; modern plumbing practice; methods of sewage disposal, septic tank, sewage disposal fields, etc. Two lectures a week for one term. Two semester-hour credits. Professor HARRIS.

24. *Pen and Ink Rendering*.—A study of the renderings of the best pen and ink draftsmen with practice in the use of the pen as a means of Architectural expression. One period. Two semester-hour credits.

Hours of criticism selected by conference with Assistant Professor BROWN.

25. *Design*.—Plan problems, sketch problems, and archaeology problems from the Class B Plan programs of the Society of Beaux-Arts Architects. At least fifteen hours a week are to be spent by the student in the drafting room. Ten semester-hour credits. Criticism by Assistant Professor BROWN on Tuesday and Friday evenings.

27. *Advanced Design*.—Plan problems and sketch problems are given from the Class A programs of the Society of Beaux-Arts Architects. The latter part of the year is devoted to a thesis, the subject being selected by the student subject to the approval of the Professor of Design. At least eighteen hours a week are to be spent by the student in the drafting room. Twelve semester-hour credits. Criticism by Assistant Professor BROWN on Tuesday and Friday evenings.

28. *History of Sculpture and Painting*.—An advanced course offering a critical study of the lives and work of those artists the significance of whose achievement marks the historical development of art. Tu., Th., at 4.00. Four semester-hour credits. Professor BIBB.

33. *Water Color*.—Drawing in water color from still life models, from architectural interiors, and from buildings and gardens. Two periods. Four semester-hour credits. Professor BIBB.

39. *Building Construction*.—Masonry foundations, pile foundations, stone work, brick work, fire-proofing, ornamental terra cotta, plastering, specifications. One lecture and three hours in drafting room a week. Four semester-hour credits. Professor HARRIS.

40. *Water Color*.—Advanced course. A continuation of course 33. Two periods. Four semester-hour credits. Professor BIBB.

41. *Heating and Ventilating*.—Elementary principles of heating and ventilating; details of installation of hot air, hot water, and steam heating plants. Two lectures for one term. Two semester-hour credits. Professor HARRIS.

43. *Office Practice*.—A course of lectures on office practice, business methods of an architect and special types of buildings by the teaching staff and practicing architects of the District of Columbia. Two semester-hour credits.

44. *Advanced Construction*.—A course arranged especially for architectural students, embracing problems in the determination of beam sizes, girder and column design, grillage beam footings and the design of the simpler forms of trusses. Two semester-hour credits. Professor HARRIS.

ASTRONOMY

ASAPH HALL, JR., Ph.D. Professor
JOHN RAYMOND LAPHAM, M.S. in C.E. Assistant Professor

First Section. Primarily for Undergraduates

1. *Popular Astronomy*.—A course in elementary descriptive astronomy designed to give facts of general interest without the use of higher mathematics. Recitations, lectures and papers on special topics assigned to each student. *Tu., Th.*, at 11.15. Four semester-hour credits. Assistant Professor Lapham.

2. *A Course in Practical Astronomy for Civil Engineering Students*.—Special attention is given to the methods of determining latitude, longitude, azimuth and time with the engineer's transit; observations for each being a required part of the course. Two lecture-recitation periods during one term. Two semester-hour credits. Assistant Professor Lapham.

Third Section. Primarily for Graduates

58. *Celestial Mechanics*.—Theory of central forces; theory of parabolic and elliptic orbits. Lectures, with reading from the works of Gauss, Oppolzer, and Moulton. Six semester-hour credits. Professor HALL.

ASTRO-PHYSICS

FREDERICK EUGENE FOWLE, JR.....Lecturer

Third Section. Primarily for Graduates

54. A lecture course on the astro-physical instruments employed in modern research. Mr. FOWLE.

BIOLOGICAL SCIENCE

PAUL BARTSCH, Ph.D.....Professor
ALBERT MANN, Ph.D.....Professor
JULIA THECKLA MACMILLAN, A.M.....Instructor
GEORGE TRAVER HARRINGTON, B.S. in Agri., B.S. in Chem....Instructor
ALEXANDER WETMORE, A.B.....Instructor
WALDO LASALLE SCHMITT, S.B.....Instructor

Botany

First Section. Primarily for Undergraduates

1. *General Botany*.—An introductory course dealing with the fundamental concepts of plant life. Representative members of the different groups of plants will be studied, and lines of evolutionary development will be emphasized. Lecture, *Th.*, at 5.00; laboratory, *Tu.*, and *Sat.*, 5.00–6.40. Six semester-hour credits. Mr. HARRINGTON.

Third Section. Primarily for Graduates

50. Original investigation in (a) Economic Botany, Materia Medica, etc.; (b) Parasitism and Monstrosities; (c) Researches in Physiology

of single groups; (d) Comparative Organography. Ten semester-hour credits. Professor MANN.

Zoology

First Section. Primarily for Undergraduates

1. *Systematic Zoology*.—Invertebrates. This includes lectures and laboratory work. The lectures cover all the branches of Invertebrates, and correlated with these lectures is the study and dissection of typical specimens in each group. This course is intended to familiarize the student with biological characters, classificatory laws, and the general principles of evolution. Lecture, *Mon.*, at 5.00; laboratory, *Wed.*, *Fri.*, 5.00–6.40. Additional laboratory sections at hours to be announced. Six semester-hour credits. Professor BARTSCH and Miss MACMILLAN.

2. *Systematic Zoology*.—Vertebrates. This includes lectures and laboratory work. The lectures will cover the various branches of Vertebrates, and correlated with these is the study and dissection of typical specimens of each group. Lecture, *Mon.*, at 5.50; laboratory *Wed.*, *Fri.*, 5.00–6.40. Additional laboratory sections at hours to be announced. Six semester-hour credits. Professor BARTSCH, Mr. WETMORE and Miss MACMILLAN.

Second Section. For Undergraduates and Graduates

20. *Practical Zoology*.—A lecture course illustrated with lantern slides and demonstrations. In this course only beneficial and injurious animals of all classes will be considered, especial stress being laid upon the problems of preservation and extermination. The course aims to expound the economic side of zoology. Open to all students. One hour. Two semester-hour credits. Not given 1917-18. Professor BARTSCH.

23. *Ornithology*.—A systematic course embracing lectures and laboratory work. The lectures are illustrated with lantern slides, showing the home life of birds. The laboratory work consists in classifying bird skins, of which the University possesses an excellent series. Special attention is directed to the study of the birds of the District of Columbia, and frequent field excursions are made to familiarize the student with the haunts and habits of these forms. Lecture, one hour; laboratory, one two-hour period. Four semester-hour credits. Professor BARTSCH and Miss MACMILLAN.

Laboratory courses in histology and physiology will be arranged for competent students.

Third Section. Primarily for Graduates

50. Courses may be arranged for competent graduates. Ten semester-hour credits. Professor BARTSCH.

CHEMISTRY

CHARLES EDWARD MUNROE, Ph.D., LL.D.....	Professor
FRANK WIGGLESWORTH CLARKE, Sc.D.....	Professor
NEVIL MONROE HOPKINS, Ph.D.....	Assistant Professor
EDWIN ALLSTON HILL, Ph.D.....	Assistant Professor
OTIS DOW SWETT, LL.M., S.M.....	Assistant Professor
HIRAM COLVER McNIEL, Ph.D.....	Assistant Professor
EDWARD ROGERS NOYES, M.D.....	Assistant Professor
HENRY ALBERT LEPPER, S.B.....	Assistant
ELLA MORGAN AUSTIN ENLWS, A.B.....	Assistant

First Section. Primarily for Undergraduates

1. *General Chemistry*.—A series of illustrated lectures, accompanied by recitations and exercises, on theoretical, inorganic, organic and technical chemistry. *Tu., Th., Sat.*, at 4.50. Six semester-hour credits. Professor MUNROE, Assistant Professor SWETT.

2. *Laboratory Practice*.—A laboratory course for the study of the principles of chemistry and the method of conducting chemical experiment. Two three-hour periods. *Tu., Th.*, at 1.30 or at 7. Four semester-hour credits. Professor MUNROE, Assistant Professor SWETT.

3. *Preparation and Study of the Properties of Chemical Substances*.—A laboratory course. Two three-hour periods. *Tu., Th.*, at 1.30 or at 7. Four semester-hour credits. Professor MUNROE, Assistant Professor SWETT.

4. *Assaying and Metallurgy of the Precious Metals*.—Carried on by the method used by the Government Assayers, the Laboratory being fitted up on the plan of that of the United States Mint. Twelve hours for three months. Professor MUNROE, Assistant Professor SWETT.

5. *Principles of Analysis*.—Lecture. One hour. Two semester-hour credits. Professor MUNROE.

6. *Metallurgy of Iron and Steel*.—A course of lectures and readings. *Tu.*, at 6.00. Two semester-hour credits. Professor MUNROE.

7. *Qualitative Analysis*.—A brief course intended primarily for students in engineering. Two three-hour periods. *Tu., Th.*, at 1.30 or at 7. Four semester-hour credits. Professor MUNROE, Assistant Professor SWETT.

Second Section. For Undergraduates and Graduates.

20. *Qualitative Analysis*.—A laboratory course in the study of the properties and reactions of chemical substances, and of the means employed for their detection and identification. Three three-hour periods. Six semester-hour credits. Professor MUNROE, Assistant Professor SWETT.

21. *Quantitative Analysis*.—A laboratory course in the quantitative estimation of the constituents of a specially selected and typical set of chemical substances, which are particularly adapted for teaching the

student the aims and methods of quantitative chemical analysis and for imparting facility in manipulation. Four three-hour periods. Eight semester-hour credits. Professor MUNROE, Assistant Professor SWETT.

23. *Organic Chemistry*.—Advanced course. *Wed., Fri.*, at 4.50. Four semester-hour credits. Professor MUNROE, Assistant Professor SWETT.

24. *Organic Chemistry*.—Advanced course. A continuation of Course 23. *Th., Sat.*, at 6.00. Four semester-hour credits. Professor MUNROE, Assistant Professor SWETT.

25. *Chemistry of the Carbon Compounds*.—A laboratory course in the preparation and study of the properties of a characteristic series of organic compounds. Four three-hour periods. Eight semester-hour credits. Professor MUNROE, Assistant Professor SWETT, Mr. LEPPER.

26. *Physical Chemistry*.—A lecture course designed to be an introduction to physical chemistry, and to treat of the modern theories of chemistry from the physical standpoint. In this course special attention is given to the ionic theory, electro-chemistry, the law of mass action, and the phase rule. Two hours. Four semester-hour credits. Assistant Professor McNEIL.

27. *Stereo-Chemistry*.—This course deals with the arrangements of atoms in space from a theoretical standpoint, while the student is taught how to form models by which to illustrate their arrangements. Two hours. Four semester-hour credits. Assistant Professor HILL.

28. *Biochemistry*.—A laboratory course in the chemical examination of some of the chief foodstuffs, the tissues and fluids of the body, and the products of certain organisms; also the isolation of the digestive enzymes and a study of their action *in vitro*. Three three-hour periods. Six semester-hour credits. Assistant Professor NOYES.

29. *Industrial Chemistry*.—This course deals with the manufacture of substances styled "chemicals" and with the application of chemistry to the arts and industries. Six semester-hour credits. Not given in 1917-18.

Third Section. Primarily for Graduates

50. *Explosive Substances*.—Ten semester-hour credits. Professor MUNROE.

51. *Analytical Methods*.—Ten semester-hour credits. Professor MUNROE.

52. *Chemical Economics and Statistics*.—Six semester-hour credits. Professor MUNROE.

53. *Development of the Theory of the Constitution of the Natural Silicates*.—Ten semester-hour credits. Professor CLARKE.

55. *Special Researches in Electro-Chemistry*.—Ten semester-hour credits. Assistant Professor HOPKINS.

56. *Physiological Chemistry*. Ten semester-hour credits. Professor MUNROE.

Students in Chemistry are invited to attend the meetings of the Chemical Society of Washington which are held on the second Thursday of each month from October to May, in the Assembly Hall of the Cosmos Club, at 8 p.m., and also the meetings of the Chemical Society of the George Washington University which is a most active and efficient student organization.

CIVIL ENGINEERING

EDWIN VIVIAN DUNSTAN, C.E.....	Professor
OSCAR ALEXANDER MECHLIN, C.E.....	Professor
JOHN RAYMOND LAPHAM, M.S. in C.E.....	Assistant Professor
LEONARD SMITH DOTEN, B.S. in C.E.....	Instructor

First Section. Primarily for Undergraduates

1. *Surveying and Mapping.*—This course includes recitations, field and drawing room work. The recitations will cover the theory, adjustment and use of instruments; land, city, topographic, mine, hydrographic and geodetic surveying. The field work includes the adjustment of instruments, the use of the level, transit and compass. Data is taken for a map covering an area of about one-quarter square mile. The computations cover problems in the closing of traverses, computing areas, reduction and plotting of field notes. Two recitations a week; field and drawing room work equivalent to one three-hour period a week throughout the year. Six semester-hour credits. Assistant Professor LAPHAM.

2. *Railroad Engineering.*—This course includes recitations, field and drawing room work. The recitations cover railroad curves and earthwork, methods of location and construction of railway lines. The field work consists in a preliminary and location survey of about one mile of railway; the laying out of circular and transition curves, etc. The computations and mapping consist of making an estimate of quantities and cost of a piece of line, making maps, profiles and a mass diagram. Two lecture-recitations and one three-hour field or drawing period a week throughout the year. Six semester-hour credits. Assistant Professor LAPHAM.

3. *Highways and Pavements.*—This course comprises the study of highway economics, location, construction and maintenance; the various methods of surfacing; the materials used and the standard tests of these materials. A study is also made of the methods of street paving, street grades, etc. Two hours a week. Four semester-hour credits. Assistant Professor LAPHAM.

4. *Materials of Construction.*—A course in the study of the chemical and physical properties of: stone, brick, lime, wood, iron, steel and a few of the minor alloys. Stress is laid on the manufacture and the properties of the materials that affect their use in engineering construction. The class room work is supplemented by laboratory tests and

by inspection trips to testing laboratories and manufacturing plants. Two hours a week during the second semester. Two semester-hour credits. Assistant Professor LAPHAM.

5. *Surveying Instruments*.—A two-months' course for Mechanical and Electrical Engineering students, covering the use of the compass, transit, and level. Lectures and field exercises, two hours. One semester-hour credit. Assistant Professor LAPHAM.

6. *Foundations*.—A two-months' course for Mechanical and Electrical Engineering students, covering the general principles of foundation construction and the materials used. Two hours. One semester-hour credit. Assistant Professor LAPHAM.

Second Section. For Undergraduates and Graduates

21. *Hydraulic Engineering*.—The design and construction of water-power plants and irrigation works. Flow of rivers; rainfall and runoff; methods of development; hydraulic motors; power transmission. Irrigation plans; distributing system; water rights and irrigation law. Two lectures and one design period. Six semester-hour credits. Mr. DOTEN.

22. *Structures*.—A course covering the determination of stresses in framed structures by graphical and by analytical methods. The first term is devoted to beams and roof trusses; the second to bridge trusses under uniform and wheel loads. Three lectures and two design periods. Ten semester-hour credits. Mechanical engineering students take only the first term. Five credits. Professor DUNSTAN.

23. *Structures*.—Design of structures in timber and steel. About two months is devoted to the design of timber trestles, roof trusses and slow-burning building construction; the remainder of the year to steel design of mill and office buildings; girder, riveted and pin-connected bridges. Three lectures and two design periods. Ten semester-hour credits. Professor DUNSTAN.

24. *Sanitary Engineering*.—Water supply: the collection, storage and distribution of water; the design and construction of dams, reservoirs and storage tanks; construction and maintenance of water distributing systems; pumping machinery; quality of water; interpretation of water analyses; sedimentation and aëration of water; sand filtration; mechanical filtration; chemical treatment of water; the relation of water supply to infectious diseases.

Sewerage: house plumbing, heating and ventilation; sewerage and drainage systems; methods of disposal of sewage and trade wastes; treatment of sewage; garbage and refuse disposal. Three lectures and one design period. Eight semester-hour credits. Mr. DOTEN.

27. *Reinforced Concrete Construction*.—The theory and design of reinforced concrete slabs, beams, and columns. Two recitations and one design period during the first semester. Three semester-hour credits. Assistant Professor LAPHAM.

28. *Masonry Construction*.—A study of brick and stone masonry, theory of foundations, piles and pile driving, caissons, coffer-dams, etc. The design of bridge piers, abutments, retaining walls, culverts and other similar structures. Two recitations and one design period a week during the second semester. Three semester-hour credits. Assistant Professor LAPHAM.

Third Section. Primarily for Graduates.

50. *Reinforced Concrete Structures*.—Theory and design; buildings bridges, retaining walls, dams, tanks, etc. One lecture and two design periods. Six semester-hour credits. Professor DUNSTAN.

51. *Advanced Steel Structures*.—Theory and design of suspension, cantilever, movable and arch bridges. One lecture and two design periods. Six semester-hour credits. Professor DUNSTAN.

52. *Architectural Engineering*.—Mechanical equipment of buildings; calculations and design of the plumbing, water supply, heating, ventilating, and electrical equipment. Two lectures and one design period. Six semester-hour credits. Professor MECHLIN.

53. *Railroad Engineering*.—An advanced course in railroad location construction, and maintenance of way. It must be preceded by Civil Engineering course 2. Six semester-hour credits. Assistant Professor LAPHAM.

54. *Water and Sewage Purifications*. An advanced course dealing with the practical application of the principles and methods involved in the purification of water supplies and in the disposal and treatment of sewage. One lecture and two design periods. Six semester-hour credits. Mr. DOTEN.

CLASSICAL LANGUAGES AND LITERATURES

CHARLES SIDNEY SMITH, Ph.D. Professor

Greek

First Section. Primarily for Undergraduates

A. *Elementary Course*.—For students who have not taken Greek before matriculating. It aims to cover as much as possible of the entrance requirement in Greek, with the exception of Homer. *Mon., Wed., Fri.*, at 10.15. Six semester-hour credits.

B. *Homer: Iliad I-IV*.—For students who have taken Course A and desire to prepare themselves to enter Course 1. Not given in 1917-18.

1. Herodotus (selections); Lysias (selected orations); Euripides (*Alcestis*); Greek prose composition. *Mon. Wed., Fri.*, at 2.45. Six semester-hour credits.

2. Xenophon (*Memorabilia*); Thucydides (*Book VII*); Sophocles (*Antigone*). *Mon., Wed., Fri.*, at 11.15. Six semester-hour credits.

Second Section. For Undergraduates and Graduates.

20. Plato (selections, including the *Apology* and *Crito*); Aristophanes (*Clouds* or *Frogs*). *Tu., Th.*, at 1.45. Four semester-hour credits.

21. Demosthenes (selected orations); Lucian (selected dialogues); Homer (selections). Not given in 1917-18.

Latin*First Section. Primarily for Undergraduates*

B. *Cicero's Orations and Vergil's Aeneid*.—For students who have satisfied the admission requirements in elementary Latin but have not done the work specified under the advanced requirements. It will include a thorough study of several of the *Orations* and of three or four books of the *Aeneid*, supplemented by private reading, and some practice in the writing of Latin. *Tu., Th., Sat.*, at 11.15. Six semester-hour credits.

1. Livy (Books I and XXI); Cicero (*De Senectute*); Horace (*Odes* and *Epodes*); Latin prose composition. Open to students who have satisfied the admission requirements in elementary and advanced Latin, or have satisfactorily completed course B. *Mon., Wed., Fri.*, at 1.45. Six semester-hour credits.

2. Cicero and Pliny (selected Letters); Horace (*Satires* and *Epistles*); Martial (selections). *Mon. Wed., Fri.*, at 3.45. Six semester-hour credits.

Second Section. For Undergraduates and Graduates

20. Tacitus (selections); Terence (*Phormio*); Plautus (*Captivi*). Not given in 1917-18.

21. Quintilian, Book X, and Horace, *Ars Poetica*; Catullus, Tibullus and Propertius. *Tu., Th.*, at 10.15. Four semester-hour credits.

22. *Advanced Latin Composition and Reading at Sight*.—Practice in Latin expression and style. *Th.*, at 2.45. Two semester-hour credits.

Third Section. Primarily for Graduates

The work in this Section is designed to afford discipline in the methods of philological criticism, with special reference to the interpretation of classical authors, and will include opportunities for original research on the part of competent students. In order to make the work as helpful as possible for those who expect to become teachers, the center of study each year will be one of the authors usually taught in the secondary schools. With the approval of the instructor, properly qualified Seniors may be admitted to these courses. The authors selected are as follows:

50. *Vergil, and Roman Epic Poetry*.—Not given in 1917-18.
 51. *Caesar, and the Roman Historians*.—Two hours. Six semester-hour credits.
 52. *Cicero, and Roman Oratory*.—Not given in 1917-18.

Classical Literature

First Section. Primarily for Undergraduates

1. *General Survey of Classical Greek Literature (in English)*.—This course is designed to give an outline of the development of the different departments of literature in ancient Greece and will include selected readings, in translation, from the most important authors. Being primarily intended for students who are not taking Greek or Latin, it does not require a knowledge of those languages, and is open to all undergraduates as an elective. Not given in 1917-18.

2. *General Survey of Latin Literature (in English)*.—This course is similar in purpose and method to Course 1, and will alternate with it. The subject of study will be the work of the most important ancient Roman authors. *Tu., Th., at 4.* Four semester-hour credits.

ECONOMICS AND SOCIOLOGY

ROBERT RUSS KERN, A.B.....	Professor
L. RUSSELL ALDEN, A.M., L.L.B.....	Assistant Professor
FRANK ROY RUTTER, Ph.D.....	Assistant Professor
FRANK ANDREWS, A.B.....	Lecturer

First Section. Primarily for Undergraduates

1. *General Economics*.—An outline course in the principles of political economy, devoted mainly to the study of production and exchange under present-day conditions, followed by a study of the problems of rent, interest, wages, and profits, and including an examination of competition, private property, and economic programs. *Mon., Wed., Fri., at 11.15.* Six semester-hour credits. Professor KERN.

2. Parallel with course 1. *Mon., Wed., Fri., at 5.50.* Six semester-hour credits. Professor KERN.

Second Section. For Undergraduates and Graduates

22. *General Sociology*.—An outline course in the principles of sociology devoted mainly to an examination of the organization of society and its ideals, with a study of the social systems, their functions, efficiencies and programs for their development. First half-year. *Tu., Th., at 5.00.* Two semester-hour credits. Professor KERN.

23. *Modern Social Problems*.—A further analysis of modern social conditions with special studies of current questions in sociology. Prerequisite, the course in general sociology. Two hours, second half-year. *Tu., Th., at 5.00.* Two semester-hour credits. Professor KERN.

24. *The History of Economic Thought*.—A review of the development of economics as a science from the earliest times to the present. Lectures and library readings. Two hours, first half-year. Given in alternate years. Not given in 1917-18. Assistant Professor KERN.

26. *Public Finance*.—A course in the development of budgetary and fiscal methods and principles. The history and tendencies of public expenditure under the Federal and State governments. The theory of taxation; administration of public domains, and industries; public debts. Second half-year. Tu., Th., at 5.50. Two semester-hour credits. Professor KERN.

27. *Money and Banking*.—The history and theory of money; the production of the precious metals; the theory of prices and measurement of price fluctuations; monetary systems; the relation of the Treasury system to our money supply; the theory of credit and banking; the national bank system of the United States and the banking system of foreign nations. First half-year. Tu., Th., at 5.50. Two semester hour credits. Professor KERN.

28. *Economic Problems*.—An advanced course devoted to a more thorough study of the problems developed in the general course in economics. Research and preparation of papers to be presented to the class for discussion and criticism. Credit for course 1, General Economics, is requisite for admission to this course. Not given in 1917-18. Professor KERN.

33. *Commercial and Maritime Law*.—A study of the principles of the law relating to commercial transactions, especially contracts, sales, bailments, agency, partnership, negotiable instruments, and common carriers, with some study of admiralty law. Tu., Th., at 5.50. Four semester-hour credits. Assistant Professor ALDEN.

36. *Commercial Geography and Economic Resources*.—During the first term, a general survey is made of the products, industries, and commerce of the United States and of the principal foreign countries. This survey is supplemented during the second term by a detailed study of agriculture, mining, and manufactures throughout the world, but with special reference to the United States; separate treatment of each important crop and branch of manufactures, with inquiry into the causes of the localization of industry. Mon., Fri., at 5.50. Four semester-hour credits. Dr. RUTTER.

37. *Transportation*.—Development and control of land and water transportation in the United States and Europe. Railroad construction; competition; combination; regulation; rates; discrimination; government ownership. Inland waterways. Ocean carriage; subsidies; combination; rebates. Suez and Panama Canals. Mon., Fri., at 5.00, second-half year. Two semester-hour credits. Not given in 1917-18. Mr. ANDREWS.

38. *International Commercial Policy*.—Comparative study of the tariff systems of the principal foreign countries. Interrelation of tariffs; commercial treaties; most-favored-nation treatment; reciprocity and

colonial preference; discrimination and countervailing duties; tariff wars. Commercial relations of the United States with foreign countries; need of foreign markets for increased output of manufactures. *Mon., Fri.*, at 5.00, first half-year. Two semester-hour credits. Not given in 1917-18. Assistant Professor RUTTER.

40. *Economic History of the United States*.—Development of agriculture from staple crops to diversified farming. Settlement of public lands; immigration. Introduction of manufactures; development since the Civil War; characteristics. Commerce; agricultural products giving way to manufactured articles. Tariff history and policy. *Mon., Fri.*, at 5.00, first half-year. Two semester-hour credits. Assistant Professor RUTTER.

41. *Statistics*.—Introduction to main sources of statistical information; margin of error; practical tests in the use of statistics of population, agriculture, manufactures, commerce, transportation, finance, wages, and prices. Methods of collection in the United States and Europe. *Mon., Fri.*, at 5.00, second half-year. Two semester-hour credits. Assistant Professor RUTTER.

43. *Combinations, Trusts*.—A discussion of the conditions which have favored the growth of large business combinations, the nature of their organization, their influence upon prices and productive efficiency, and the regulation and supervision of them. First half-year. *Mon., Fri.*, at 9.15. Two semester-hour credits. Professor KERN.

44. *Labor Problems*.—A brief sketch of the labor movement in the United States and of the aims and methods of trade unions, followed by a discussion of such problems as: child labor; dangerous occupations; workingmen's insurance against sickness, old age, accidents, and unemployment; strikes and industrial conflicts; conciliation and arbitration; collective bargaining. Second half-year. *Mon., Fri.*, at 9.15. Two semester-hour credits. Professor KERN.

Third Section. Primarily for Graduates

51. *Seminar in Sociology*.—A research course for the detailed investigation of special sociological problems, suitable for those who are engaged in original investigation or in the preparation of a thesis. Hours to be arranged. Six semester-hour credits. Professor KERN.

EDUCATION

WILLIAM CARL RUEDIGER, Ph.D.....	Professor
WILLARD STANTON SMALL, Ph.D.....	Lecturer
ARTHUR DEERIN CALL, A.M.....	Lecturer
MARIETTA STOCKARD, A.B.....	Lecturer
HARRIET UNDERWOOD, A.B.....	Assistant

Second Section. For Undergraduates and Graduates

20a. *Principles of Teaching*.—A comprehensive course in the principles underlying the teaching process in its intellectual, emotional and

motor phases. Special attention is given to making teaching concrete and meaningful. First half-year. *Mon., Wed., Fri.*, at 11.15. Three semester-hour credits. Professor RUEDIGER.

20b. *Principles of Education*.—A comprehensive course in the bases, aims, values and essential content of education as revealed by biological, psychological, sociological and ethical principles. Second half-year. *Mon. Wed., Fri.*, at 11.15. Three semester-hour credits. Professor RUEDIGER.

21a. *Principles of Teaching*.—A brief course in the psychological and logical principles underlying the teaching process. First half-year. *Sat.*, 9.15–11.15. Two semester-hour credits. Professor RUEDIGER.

21b. *Principles of Education*.—A brief course in the bases, aims, values and essential content of education as revealed by biological, psychological, sociological and ethical principles. Second half-year. *Sat.*, 9.15–11.15. Two semester-hour credits. Professor RUEDIGER.

(Courses 20 and 21 should be preceded or accompanied by general psychology. Course 21 is designed especially for teachers in service.)

22. *History of Education*.—A general course in the historical development of educational theory and practice. *Mon., Wed.*, at 4.00. Four semester-hour credits. Professor RUEDIGER.

24. *School Sanitation and Hygiene*.—A survey of the relations of education and health, including: The function of the school in promoting health; physical examination of children; medical inspection; physical education; diseases and defects incident to school life; the organization of instruction as related to fatigue; defective children; schoolhouse construction and sanitation. Lectures, reference work, and reports. *Th.*, at 5.00. Two semester-hour credits. Dr. SMALL.

25. *Secondary Education*.—After sketching the meaning and significance of secondary education as revealed by educational theory, by the secondary schools of Germany, France, and England, and by the history of secondary education in America, the course will consider in some detail the educational values, essential content, and methods of teaching the various high school branches. The problems of essential minima, of the connection of the studies with life, and of the development of initiative in the student will be emphasized. *Tu., Th.*, at 4.00. Four semester-hour credits. Dr. SMALL.

27. *School Administration*.—1916–17. Two semester-hour credits. Dr. SMALL.

28. *Experimental Education*.—A laboratory course on processes of learning, transfer of practice, association, memory, etc. Special emphasis will be laid upon practical work with the Binet and other mental tests. Two semester-hour credits. *Sat.*, 9.15–11.15. Professor RUEDIGER and Miss UNDERWOOD.

29. *Educational Story Telling*.—Study of type stories, adaptation of stories, practical story telling. It is the purpose of the course to develop a basis for the selection and presentation of suitable children's literature, taking into consideration the various stages of the child's development.

Lectures, required reading and reports. *Tu., Th.*, at 4.00. Four semester-hour credits. Miss STOCKARD.

30. *Story Telling and Children's Literature*.—Study of Epics—Iliad, Odyssey, and Kalevalla. Retelling, possible dramatization.

Part of the course will be given to a discussion of reading and reading books with a view to supplementing with stories and units of literature. It will be the purpose to work toward a solution of the problem of developing in the child a higher appreciation of the best in literature and a real love of books through his school reading. The course will extend and supplement course 29 but will be open to all upper class students. *Tu., Th.*, at 5.00. Four semester-hour credits. Miss STOCKARD.

31. *Elements of Teaching*.—This course will deal briefly with the general principles involved in self culture, our moral ideal, the state and society, the problem of study, the teaching process, lesson assignment, the recitation, and the art of questioning. The principles developed will be applied to the teaching of reading, English, and American history. The course satisfies the requirement in the Principles of Teaching. *Tu.*, at 5.00. Two semester-hour credits. Mr. CALL.

33. *Ethical Principles in Education*.—The aim of this course is to promote a deeper professional spirit by stimulating the professional cast of mind. Some of the topics to be studied are: the meaning of ethics; maxims for an ethical code; ethical elements in self-culture; various ethical interpretations of the moral ideal; ethical elements in the advancement of truth; ethics of veracity; the ethics of example; the ethics of charity; ethics and the solution of crime; the ethical value of the state; the ethical interpretation of society; the rise of moral enthusiasm; ethical values in public education. 1916-17. Two semester-hour credits. Mr. CALL.

(Courses 31 and 33 are given in alternate years.)

34. *Observation*.—Observation of experienced teachers, under guidance, in the elementary and secondary schools of the city. The course should normally be taken in the junior year. Two semester-hour credits Professor RUEDIGER.

35. *Practice Teaching*.—Opportunity for practice teaching under supervision and criticism is provided in the University Demonstration School. The course should normally be taken in the senior year. Two semester-hour credits. Professor RUEDIGER.

(The students taking courses 34 and 35 will meet together once a week for conference and discussion.)

Third Section. Primarily for Graduates

50. *Seminar in Education*.—A critical study of recent publications in the principles of education, such as Dewey's "Education and Democracy" and Moore's "What is Education," supplemented by a review of current periodical literature bearing upon educational aims and values. Open to qualified undergraduates. *Tu.*, 5-6.40. Six semester-hour credits. Professor RUEDIGER.

ELECTRICAL ENGINEERING

LOUIS COHEN, B.S. in E.E.....Professor of Radio-electricity
 CHARLES WARD MORTIMER, M.E.....Assistant Professor
 MARK RITTENHOUSE WOODWARD, E.E.....Assistant Professor

First Section. Primarily for Undergraduates

1. *Elementary Mathematical Theory of Electricity and Magnetism.*—Elementary electricity and magnetism is studied with special attention to the needs of engineering students. The phenomena accompanying static electricity are noted. Problems illustrating the theory and having practical application are required to be solved. Prerequisite: Physics 1. Two hours. Four semester-hour credits. Assistant Professor MORTIMER.

2. *Elements of Electricity; Direct Current Motors and Generators; Design Work.*—Elements of electricity are studied during the first term and especial emphasis is laid upon the principles underlying the flow of currents. During the second term a study is made of direct current generators and motors, covering the laws of the magnetic circuit as applied to the dynamo. The course includes the design of electrical machinery and apparatus. An introductory study of alternating currents is also begun. Numerous problems are assigned throughout the course. Prerequisite: Physics 1. Three hours. Six semester-hour credits. Assistant Professor MORTIMER.

4. *Electrical Measurements.*—A laboratory course for Juniors. Selected experiments. Foster's Hand-book and special laboratory notes are used for reference. Two three-hour periods, first half-year. Two semester-hour credits. Assistant Professor MORTIMER.

5. *Electrical Laboratory.*—Experiments and tests involving the operation of direct-current dynamos and motors, including tests of motors in service, operating elevators, street cars, and machinery of various kinds. Text-book: Sever and Townsend's "Laboratory and Factory Tests in Electrical Engineering." Two three-hour periods, second half-year. Two semester-hour credits. Assistant Professor MORTIMER.

6. *Industrial Electricity.*—A practical course intended for Juniors in Civil Engineering, embracing the selection and operation of electrical machinery, electrical railways and other applications of electric motors. Prerequisite: Physics, 1. Two hours, first half-year. Two semester-hour credits. Assistant Professor WOODWARD.

7. *Electrical Engineering.*—A course in theoretical and applied electricity intended for Seniors in Mechanical Engineering. It embraces the selection and operation of electrical machinery, the location, construction, and operation of power plants, electric railways and transmission lines, the use of electric motors for driving machinery, and the working of storage batteries, elevators, hoists, and cranes. Prerequisite: Physics, 1. Three hours. Six semester-hour credits. Assistant Professor WOODWARD.

8. *Electrical Design*.—A course for Seniors in Electrical Engineering, embracing calculation and design of electrical machinery and accessories, including switchboards, rheostats, instruments, and arrangement of same. Two semester-hour credits.

Second Section. For Undergraduates and Graduates

21. *Alternating Current Theory and Machinery*.—A course for Seniors in Electrical Engineering, covering the principles of single as well as polyphase currents, including study of machines, circuits, transformers, etc. Four hours. Eight semester-hour credits. Assistant Professor MORTIMER.

22. *Electrical Distribution*.—A course for Seniors in Electrical Engineering, covering the whole field of distribution of electricity for light and power. Text-book: Ferguson's Elements of Electrical Transmission. One hour. Two semester-hour credits. Assistant Professor MORTIMER.

23. *Electrical Applications*.—A course for Seniors in Electrical Engineering, covering the more important applications of electricity, such as motive power, including elevators, hoists and machine drive, telephony, telegraphy, electro-metallurgy, etc. One hour. Two semester-hour credits. Assistant Professor WOODWARD.

24. *Advanced Laboratory Work for Seniors in the Electrical Engineering Course*.—Covers test and experimental work with direct and alternating currents, tests of machines, circuits, transformers, circuits containing inductance and capacity, measurement of power in alternating current circuits, plotting of curves, etc. Text-book: Sever and Townsend's Laboratory and Factory Tests in Electrical Engineering, with Foster's Electrical Engineer's Hand-book for general reference. Two three-hour periods. Four semester-hour credits. Assistant Professor MORTIMER.

25. *Inspection of Plants and Industrial Works*.—In the vicinity of Washington and Baltimore are a number of modern electric lighting and street railway plants, telephone exchanges, telegraph operating rooms, Government laboratories devoted to special work, etc., which afford students of Electrical Engineering an opportunity to familiarize themselves with nearly all types of apparatus in use. The visits are followed by class discussion based on written description submitted by the students.

26. *Electric Lighting and Illumination*.—A course for Seniors in Electrical Engineering covering the subject of electric lighting and illumination, including detailed study of different types of lamps, shades, arrangement of light sources, effect of walls, etc. Two hours. Four semester-hour credits. Assistant Professor WOODWARD.

27. *Electric Railways*.—A course for Seniors in Electrical Engineering covering the theory and practice of modern, direct and alternating current railways. Two hours, second half-year. Two semester-hour credits. Assistant Professor MORTIMER.

Third Section. Primarily for Graduates

50. *Radio-electricity*.—A mathematical treatment of the fundamental principles with an exposition of their application to present day practice. Problems based on the methods used and the apparatus employed in the generation of oscillatory currents; the reception of signals; and other features developed in the utilization of this method of transmission will be discussed. Six semester-hour credits, as a Minor, ten semester-hour credits, as a Major. Professor COHEN.

53. *Advanced Course in Polyphase Currents*.—Six semester-hour credits. Assistant Professor MORTIMER.

54. *Advanced Laboratory Work, Alternating (including Polyphase) Current Apparatus*.—Six semester-hour credits. Assistant Professor MORTIMER.

ENGLISH

WILLIAM ALLEN WILBUR, A.M., Litt.D.,.....	Professor
DE WITT CLINTON CROISSANT, Ph.D.....	Professor
RICHARD COBB, A.B.....	Professor
RALPH WEBSTER BENTON, A.B.....	Assistant

First Section. Primarily for Undergraduates

1. *English Rhetoric*.—A study of the principles of self expression through language with practice in composition. *Tu., Th., Sat., at 10.15.* Six semester-hour credits. Professor WILBUR.

2. *English Rhetoric*.—Parallel with Course 1. *Mon., Wed., Fri., at 5.00.* Six semester-hour credits. Professor WILBUR.

NOTE.—Credit for Course 1 or 2 is requisite for admission to any other course in English except 7 or 8.

7. *Survey of English and American Literature*.—*Mon., Wed., Fri., at 2.45.* Six semester-hour credits. Professor COBB.

8. *Survey of English and American Literature*.—Parallel with Course 7. *Mon., Wed., Fri., at 5.00.* Six semester-hour credits. Professor COBB.

Second Section. For Undergraduates and Graduates

20. *English Composition*.—*Tu., Th., at 11.15.* Four semester-hour credits. Professor COBB.

22. *Shakespeare, 1917-1918. The Tragedies*. *Mon., Wed., Fri., at 9.15.* Six semester-hour credits. Professor WILBUR.

23. *Shakespeare, 1916-1917. The Comedies.*

(The Temple edition of Shakespeare is recommended.)

27. *Humanistic Studies, 1917-1918*.—Selected masterpieces of poetry *Tu., Th., Sat., at 9.15.* Six semester-hour credits. Professor CROISSANT.

28. *Humanistic Studies, 1917-1918*.—Poetry of the nineteenth century. Six semester-hour credits. *Mon., Wed., Fri., at 5.50.* Professor CROISSANT.

29. *The English Drama, 1917-1918.*—The English Drama from the beginning to 1870.

1918-1919.—The modern drama from 1870 to the present including Continental, British, and American writers. *Mon., Wed. Fri.*, at 4.00. Six semester-hour credits. Professor CROISSANT.

31. *Journalism.*—The fundamentals of newspaper writing. *Tu., Th., Sat.*, at 11.15. Six semester-hour credits. Professor CROISSANT.

33. *American Literature.*—Lecture and collateral reading. *Mon., Wed., Fri.*, at 1.45. Six semester-hour credits. Professor CROISSANT.

Third Section. Primarily for Graduates

50. *The Philosophy of Tennyson, 1916-1917.*

51. *Seminary in English.* Problems in English Literature. For graduates, seniors, and approved special students. *Tu., Th.*, at 5.00. Six semester-hour credits. Professor WILBUR.

FRENCH

See Romance Languages

GEOLOGY AND MINERALOGY

RAY SMITH BASSLER, Ph.D.....Professor
CHARLES ELMER RESSER, A.M.....Instructor

First Section. Primarily for Undergraduates

1. *Mineralogy.*—Crystallographic, descriptive, and determinative mineralogy. This course is designed with especial reference to minerals as rock constituents or segregated as ore deposits. It includes, therefore, a discussion of not merely the crystallographic and theoretical, but the practical side of the subjects as well. Whenever possible, it should be considered as introductory to the courses in either systematic or economic geology. Text book Dana's Manual of Mineralogy by Ford. *Mon., Fri.*, at 5.00. Four semester-hour credits. Professor BASSLER and Mr. RESSER.

2. *Geology.*—Systematic geology; dynamical, structural and stratigraphical. The course is designed to form a part of a general-culture course, or a preliminary course for those intending to make a specialty of geology. It includes lectures, recitations, laboratory and field work so far as hours will permit. Paleontology is treated as a branch of geology, having especial reference to stratigraphy and correlation. Text-book: Cleland's Geology: *Mon., Fri.*, at 5.50. Four semester-hour credits. Professor BASSLER and Mr. RESSER.

3. *Principles of Geography.*—This course considers the phenomena of the earth as a whole, the interrelations of these phenomena and their influence upon human affairs. It consists of a study of the general geographical principles—earth relations, physiography, climate, life,

commerce, politics—and their application. *Wed.*, at 5.00. Two semester-hour credits. Mr. RESSER.

Second Section. For Undergraduates and Graduates

20. *Economic Geology*.—[Geology 1 and 2 and Chemistry 1 are prerequisite for this course.] The course covers the subjects comprised under: (1) Mineral veins and metalliferous deposits, their mode of occurrence, origin, and classification; (2) the ores of iron, copper, lead, zinc, tin, silver, gold, mercury, antimony, etc.; and (3) the non-metallic minerals as the coals and hydrocarbon compounds; salts and materials used in chemical manufactures; abrasive, refractory, and fictile materials, pigments, gems, ornamental stones, building stones, limes, cements, and mineral waters. Text-books: Lingdren's *Mineral Deposits*. *Mon., Fri.*, at 5.00. Given in alternate years. Four semester-hour credits. Professor BASSLER and Mr. RESSER.

21. *Engineering Geology*.—This course is intended primarily for civil engineers and others interested in applied geology. The work covers the general principles of geology with special emphasis upon those relating to engineering problems. The structure of rocks relative to building operations, the controlling factors of water supply and water purification and similar problems are discussed in detail. Text-book, *Engineering Geology* by Ries and Watson. *Mon., Fri.*, at 4.00. Four semester-hour credits. Mr. RESSER.

22. *Paleontology*.—A course in lecture and laboratory work on the biological and geological relations of the more important types of animals and plants, with especial reference to their value in stratigraphic geology. Six semester-hour credits. Professor BASSLER.

Third Section. Primarily for Graduates

50. *Advanced Geology and Paleontology*.—The student in this course may devote his time largely, if necessary, to perfecting himself in methods; to general work in the laboratory and in the field; to the examination of geological materials, and to familiarizing himself with the literature of the subject. Four semester-hour credits. Professor BASSLER.

GERMANIC LANGUAGES AND LITERATURE

HERMANN SCHOENFELD, Ph.D., LL.D.....Professor
ALFRED FRANCIS WILLIAM SCHMIDT, A.M.....Professor

First Section. Primarily for Undergraduates

1. *Elementary*.—The essentials of German grammar; translation of prose and poetry; beginning conversation; composition and dictation. This course is open to beginners, and the work done is equivalent

to that of a two years' course in high schools and academies of good standing. *Tu., Th., Sat.*, at 11.15. Six semester-hour credits. Professor SCHOENFELD.

2. Parallel with Course 1. *Tu., Th., Sat.*, at 5.00. Six semester-hour credits. Professor SCHMIDT.

3. Selected texts from the best contemporary authors will be read and one or more of the German classics carefully studied. The work in grammar and composition done in elementary German will be continued, with special emphasis on syntax, word-formation, and the relationship of German and English; conversation continued. This course is equivalent to the advanced German of the admission requirements, and it is open only to students who have passed Course 1 or 2, or have satisfied the admission requirement in elementary German. *Mon., Wed., Fri.*, at 11.15. Six semester-hour credits. Professor SCHOENFELD.

4. Parallel with Course 3.—Contemporary German is read during the first half-year and classical during the second half-year. *Mon., Wed., Fri.*, at 5.50. Six semester-hour credits. Professor SCHMIDT.

6. *Scientific and Technical German*.—Designed primarily for students in the scientific and engineering courses. This course may be taken by students who have passed Course 1 or 2, or who have satisfied the admission requirement in elementary German. *Tu., Th., Sat.*, at 5.50. Six semester-hour credits. Professor SCHMIDT.

7. Advanced course in German syntax; principal difficulties of the language: idioms; synonyms; translations of English prose into German; essays; selected advanced prose; classical reading and literature; German history. Open to students who have passed Course 3 or have satisfied the admission requirement in advanced German. *Mon., Wed., Fri.*, at 1.45. Six semester-hour credits. Professor SCHOENFELD.

8. Parallel with Course 7, with special reference to advanced students both in the historico-political and the scientific departments. *Tu., Th., Sat.*, at 5.00. Six semester-hour credits. Professor SCHOENFELD.

Second Section. For Undergraduates and Graduates

20. *Outline of the History of German Literature and Civilization from the Teutonic Origins to the Renaissance and Reformation*, with special reference to the emerging of the Germanic, Romance, and Slavic races.—Lectures, extensive readings of the classics of the first period of bloom; advanced practice in writings, essays. *Mon. Wed., Fri.*, at 10.15. Six semester-hour credits. Not given in 1917-18. Professor SCHOENFELD.

21. *German Literature of the Second Classic Period at its Zenith*.—Goethe's and Winckelmann's influence on German art; with special reference to the modern German drama; Goethe's *Faust*, as a special critical and philosophical study, classical ballad and lyric poetry; renaissance of the German folksied in the eighteenth and nineteenth centuries. *Tu., Th., Sat.*, at 10.15. Six semester-hour credits. Professor SCHOENFELD.

22. *The Currents of German Literature from the beginning of the Nineteenth Century until 1870.*—Romanticism, its social and political aspects; Modern German Drama, with special emphasis on Kleist, Grillparzer, Hebbel; Lyrics and Ballads: Uhland and Heine. *Tu., Th., Sat.,* at 10.15. Six semester-hour credits. Professor SCHOENFELD.

Third Section. Primarily for Graduates

50. *Seminar in the History of Middle High German Literature*, with special reference to the Epic and Lyrical Poetry in the Twelfth and Thirteenth Centuries. Introduction to scientific methods of historical and literary research in the Nibelungenlied and the Gudrunsa. Six semester-hour credits. Professor SCHOENFELD.

51. *Gothic.*—Introduction to comparative Indo-European Grammar. Six semester-hour credits. Professor SCHMIDT.

52. *Old High German.*—The development of the German language. Six semester-hour credits. Professor SCHMIDT.

Only one of the foregoing two courses (51, 52) is given in any one year.

For notice of the Richard Heinzel Germanic Library, see page 40.

GREEK

See Classical Language.

HISTORY

CHARLES CLINTON SWISHER, Ph.D., LL.D.....	Professor
LEVI RUSSELL ALDEN, A.M., LL.B.....	Assistant Professor
GEORGE MORTON CHURCHILL, Ph.D.....	Assistant Professor
WILLIAM LAWRENCE WANLASS, A.M.....	Assistant
LEWIS EUGENE MCARTHUR A.B.....	Assistant

First Section. Primarily for Undergraduates

1. *Mediaeval History.*—A history of the settlement of the Germanic tribes in the territory of the Empire, with a study of feudal institutions, extending through the movements of the Crusades; texts, with assigned readings. First half-year. *Mon., Wed., Fri.,* at 3.45. Three semester-hour credits. Professor SWISHER.

2. *Mediaeval History.*—A history of the evolution of national government extending through the periods of the Renaissance and the Protestant Revolution; texts and assigned readings. Second half-year. Three semester-hour credits. *Mon., Wed., Fri.,* at 3.45. Professor SWISHER.

3. *Modern European History.*—A study of the European States under the new conditions resulting from the discovery of America and the opening of the oriental trade routes, extending through the period of the French Revolution; texts, lectures, and collateral readings. First

half-year. *Mon., Wed., Fri.*, at 2.45. Three semester-hour credits. Professor SWISHER.

4. A continuation of the preceding through the revolutionary movements of the nineteenth century, with a more detailed study of recent issues; texts, lectures, and collateral readings. Second half-year. *Mon., Wed., Fri.*, at 2.45. Three-semester-hour credits. Professor SWISHER.

5. *Mediaeval History*.—Parallel with Course 1. First half-year. *Tue., Th., Sat.*, at 5.00. Three semester-hour credits. Professor SWISHER.

6. *Mediaeval History*.—Parallel with Course 2. Second half-year. *Tu. Th. Sat.*, at 5.00. One and one-half credits. Professor SWISHER.

Second Section. For Undergraduates and Graduates

20. *American History*.—A study of the formation of the Union and the subsequent history of the United States to date, with particular attention to those factors which have tended to develop or retard the growth of American nationality; text-book, lectures and special reports. *Tu., Th., Sat.*, at 11.15. Six semester-hour credits. Assistant Professor ALDEN.

21. *Ancient History*.—A study of the history of the ancient oriental peoples, and of Greece and Rome; with collateral readings in the translated texts of Herodotus, Plutarch, Thucydides, Tacitus and others. *Tues., Thu., Sat.*, at 9.15. Six semester-hour credits.

25. *English History*.—A general course in English history with special attention to constitutional and political development. Texts, lectures, and collateral reading. *Mon., Wed., Fri.*, at 5.00. Six semester-hour credits. Assistant Professor CHURCHILL.

30. *American Constitutional History*.—A history of the origin and development of the Federal Constitution of 1789, with a study of its interpretation under the pressure of party issues. Lectures, text-books, and collateral readings. *Tu., Th., Sat.*, at 5.00. Six semester-hour credits. Professor SWISHER. Not given in 1917-18.

31. *Modern European History*.—A study of the French Revolution and subsequent reaction extending through the Revolution 1848. First half-year. *Tu., Th., Sat.*, at 5.50. Three semester-hour credits. Professor SWISHER.

32. *Modern European History*.—From 1850 to the present time. Second half-year. *Tu., Th., Sat.*, at 5.50. Three semester-hour credits. Professor SWISHER.

33. *Current History*.—A discussion of political questions of the day, with special reference to their origin and historical significance. Lectures throughout the year. *Sat.*, at 11.15. Two semester-hour credits. Professor SWISHER.

Third Section. Primarily for Graduates

54. *Seminar Work*.—The results of individual research, conducted by graduate students upon assigned topics, will be discussed at the weekly meetings of the seminars of American and Modern European History.

Undergraduate students qualified by previous historical study, who desire to do intensive work with a view to gaining fuller information upon special periods or facility in the use of historical materials, may, with the approval of the instructor, be admitted to the historical seminars. Regular meeting of Seminar, Saturday, 12.15-2.15. Six semester-hour credits. Professor SWISHER, Assistant Professor ALDEN, and Assistant Professor CHURCHILL.

INTERNATIONAL LAW AND DIPLOMACY

See Political Science.

LATIN

See Classical Languages.

MATHEMATICS

HOWARD LINCOLN HODGKINS, Ph.D..... Professor
HARRY GRANT HODGKINS, A.B..... Instructor

First Section. Primarily for Undergraduates

3. *College Algebra; Solid Geometry; Plane Trigonometry*.—Algebra is studied during the first half-year, solid geometry during February and March, and trigonometry during April and May. *Mon. Wed., Fri.*, at 9.15. Six semester-hour credits. Professor HODGKINS.

4. *Algebra; Plane Trigonometry*.—Algebra is studied until April 1, and trigonometry during April and May. *Mon., Wed., Fri.*, at 5.00. Six semester-hour credits. Mr. HODGKINS.

6. *College Algebra; Solid Geometry; Plane Trigonometry*.—Parallel with Course 3. *Mon. Wed., Fri.*, at 5.50. Six semester-hour credits. Mr. HODGKINS.

9. *Trigonometry; Analytic Geometry*.—Trigonometry until Jan. 1, analytic geometry for the remainder of the session. The completion of Course 3, 4 or 6 is requisite for admission to this course. *Mon., Wed., Fri.*, at 10.15. Six semester-hour credits. Professor HODGKINS.

12. *Trigonometry; Analytic Geometry*.—Parallel with Course 9. Section A. *Mon., Wed., Fri.*, at 5.50. Section B. *Tu., Th., Sat.*, at 5.50. Six semester-hour credits. Professor HODGKINS.

Second Section. For Undergraduates and Graduates

20. *Differential and Integral Calculus; Elements of differential equations*. *Tu., Th., Sat.*, at 5.00. Six semester-hour credits. Professor HODGKINS.

21. *Differential and Integral Calculus; Elements of differential equations.* Tu., Th., Sat., at 9.15. Six semester-hour credits. Professor HODGKINS.

Third Section. Primarily for Graduates

50. *Differential Equations.*—Mon., Fri., at 11.15. Four semester-hour credits. Professor HODGKINS.

MECHANICAL DRAWING

JOHN RAYMOND LAPHAM, M.S. in C.E. Assistant Professor
WILLIAM DARRACH HALSEY, A. B. Instructor

First Section. Primarily for Undergraduates

1. *Mechanical Drawing.*—A general course embracing the care and use of instruments; Freehand lettering, orthographic and isometric projections; sections and intersections; sketching of simple machine details; principle of working drawings; curve plotting. Two three-hour periods. Four semester-hour credits.

2. *Machine Drawing.*—A course in working drawings especially designed for Mechanical and Electrical Engineering students. The course is largely one of empirical design of standard machine parts. Much stress is laid upon drafting room practice, arrangement of views and conventional forms and standards. Two three-hour periods. Four semester-hour credits.

3. *Mechanical Drawing.*—A combination of Courses 1 and 2 especially designed for Chemical Engineering students. Two three-hour periods. Four semester-hour credits.

4. *Mechanical Drawing.*—A course for Chemical Students, similar to Course 3. One three-hour period. Two semester-hour credits.

8. *Descriptive Geometry.*—A course of lectures, recitations, and drafting room work on the line, point, and plane; single and double curved surfaces; tangent lines and tangent planes; intersections of lines, planes, and solids; shades, shadows and perspective. Two three-hour periods, first half-year. Three semester-hour credits.

MECHANICAL ENGINEERING

ROBERT WILBUR MORSE, S.B. Assistant Professor
MARK RITTENHOUSE WOODWARD, B.S. in E.E. Assistant Professor
WILLIAM DARRACK HALSEY, A.B. Instructor

First Section. Primarily for Undergraduates

1. *Mechanism.*—A course in the systematic study of the kinematics of machinery, in which the mechanical movements are reduced to

scientific analysis. Carefully developed problems and diagrams of changes of position and speed in mechanism are constantly used.

Some attention is given to the design of gear teeth, and a large part of the second half year is devoted to the study of steam engine valve gears. Three lectures and one drawing period. Eight semester-hour credits. Mr. HALSEY.

6. *Engineering Drawing*.—This course provides for the application of the principles taught in the courses of Mechanism and Steam Engineering to specific problems. Practice is given in the design of valve gears, cans, gear teeth and quick return motions, and in the determination of velocity diagrams for special engine and other linkages. There is also included the complete working drawings for a steam boiler. Two three-hour periods. Four semester-hour credits. Assistant Professor MORSE.

9. *Engineering Laboratory*.—A course of practical work in the testing of engineering apparatus and materials. The work consists of tests of the strength of iron, steel and cement; measurement of the flow of air and water; tests of steam calorimeters; tests of pumping machinery; efficiency tests of steam engines; fuel value determinations; evaporative efficiency of boilers. Two three-hour periods, second half-year. Two semester-hour credits. Assistant Professor MORSE and Mr. HALSEY.

10. *Engineering Laboratory*.—A completion of Course 9. Two three-hour-periods, first half-year. Two semester-hour credits. Assistant Professor MORSE and Mr. HALSEY.

11. *Engineering Laboratory*.—Advanced work in the laboratory for Mechanical Engineering students. The work consists of efficiency tests of refrigerating machinery, air compressing machinery; Hirn's analysis; etc. Two three-hour periods, second half-year. Two semester-hour credits. Assistant Professor MORSE and Mr. HALSEY.

Second Section. For Undergraduates and Graduates

20. *Thermodynamics, Steam Boilers, and Power Plant Accessories*.—About five months are devoted to the principles of thermodynamics, the theoretical gas and vapor cycles, and the properties of steam. The application of the theoretical vapor cycles to the real steam engine is discussed. The latter part of the course is devoted to the study of steam boilers, steam turbines, gas engines, steam power plant accessories, compression and refrigeration machinery. Three hours. Six semester-hour credits. Mr. HALSEY.

23. *Hydraulic Machinery*.—This course provides for an elementary study of hydraulic prime movers and pumping machinery. It includes a discussion of the theory and design of turbines and turbine blades for low and high heads, and turbine governors.

The course will also treat of impulse wheels; water motors of the piston type; machinery for the utilization of hydraulic pressure; hy-

draulic pressure pumps, and hydraulic presses; hydraulic tools; pumps operated by steam, electricity, or power; and high duty pumps and water meters. Two hours, second half-year. Two semester-hour credits. Assistant Professor MORSE.

24. *Cotton Machinery and Machine Tools*.—A study of the mechanisms found in cotton machinery and machine tools. Two hours one term. Two semester-hour credits. Assistant Professor MORSE.

25. *Machine Design*.—This course is an application of principles already acquired to problems in design, each student being required to complete every detail of the design undertaken.

The subjects taken as design problems are:

The complete design of a gas engine, or a punch, or the design of a steam boiler, a series of shaft couplings, and a fly-wheel.

The constructive details and calculations are discussed and the limitations of theoretical and empirical formulas pointed out. One lecture-recitation hour and five hours in the drawing room. Four semester-hour credits. Assistant Professor MORSE.

26. *Dynamics of Machinery*.—A course including a number of the principal applications of dynamics to moving machinery, such as governors, fly-wheels, and the effect of the reciprocating parts of the steam engine. Two hours. Four semester-hour credits. Assistant Professor MORSE.

27. *Power-Plant Design*.—This course provides for the design with complete plans and specifications of a power plant of industrial proportions by the student. One lecture-recitation hour and one three-hour drawing period, first half-year. Two semester-hour credits. Assistant Professor WOODWARD.

28. *Industrial Management*.—A course dealing with the business systems of manufacturing establishments.

The work includes a study of the organization and relations of the various departments of an industrial establishment, both in the office and in the workshop. It also discusses the conduct of accounts, the method of superintendence and of compensating labor, the determination of the cost of production, and the effect on costs of different systems of distributing indirect expenses. This course also considers the factors which enter into a determination of the depreciation of structures and the economic selection thereof. Two hours. Four semester-hour credits. Assistant Professor MORSE.

29. *Heating and Ventilating*.—This course deals with the elementary principles underlying the subject of heating and ventilating. Furnace heating, direct and indirect steam heating, hot water heating, and the ventilating of different types of buildings are discussed. Two hours, second half-year. Two semester-hour credits. Mr. HALSEY.

30. *Gas Engines*.—This course deals with the thermodynamics and practice of the internal combustion engine. A study is made of the principal existing types of engines. Two hours, first half-year. Two semester-hour credits. Mr. HALSEY.

31. *Steam Turbines*.—This course deals with the thermodynamics and

practice of the steam turbine. Nozzle and blade design is taken up and a study is made of the existing types of turbines. Two hours, second half-year. Two semester-hour credits. Mr. HALSEY.

Third Section. Primarily for Graduates

50. *Advanced Machine Design*.—Six semester-hour credits. Assistant Professor MORSE.

51. *Advanced Power Plant Design*.—Six semester-hour credits. Assistant Professor WOODWARD.

METEOROLOGY

WILLIS LUTHER MOORE, D.Sc., LL.D. Professor
WILLIAM JACKSON HUMPHREYS, Ph.D. Professor

Third Section. Primarily for Graduates

50. *Applied Meteorology*.—Investigation of the underlying laws governing meteorological phenomena and of the methods employed in practice for their interpretation and applications. Ten semester-hour credits. Professor MOORE.

51. *Meteorological Physics*. This course presupposes collegiate training in general physics. Particular attention will be given to the interpretation of meteorological phenomena in the light of modern physics; and those wishing to make this their principal study will be assisted in the selection of a suitable problem for investigation and advised in the collection of data necessary to its solution. Ten semester-hour credits. Professor HUMPHREYS.

NAUTICAL SCIENCE

GEORGE WASHINGTON LITTLEHALES, C.E. Professor

First Section. Primarily for Undergraduates

1. *Nautical Science*.—Marine and aerial navigation; nautical astronomy; nautical almanac; production and use of nautical charts; tides; applications of meteorology, terrestrial magnetism and oceanography to navigation and seamanship; deviation of the compass in iron and steel ships; theory and use of instruments of navigation. Four semester-hour credits. Professor LITTLEHALES.

Third Section. Primarily for Graduates

50. *Nautical Science*.—Special investigations requiring original thought in relation to avenues of progress, such as the neutralization of the effects of the ship's magnetism upon the compass, the develop-

ment of the gyroscopic compass, the supplying of means to enable seamen to make astronomical observations at night or when the horizon is hidden from view. The applications of nautical astronomy to aerial navigation. Conferences, assigned readings, direction of research. Six semester-hour credits. Professor LITTLEHALES.

NAVAL ARCHITECTURE

ARTHUR FREDERICK JOHNSON, M.E.....Instructor

20. *Elementary Naval Architecture*.—Calculations and details of construction connected with the design of steel composite and wooden ships for the merchant, naval and special services. Students make structural, general arrangement and line drawings for a given vessel. Three recitations, one drawing period. Eight semester-hour credits.

21. *Advanced Naval Architecture*.—Advanced design, ship construction, organization and administration of shipyards, economics of design, inspection, testing, contracts and specifications. Students complete design, calculations and specifications for a vessel. At seasonable periods during the course, shipyards in the vicinity are visited and studied. Three recitations, one drawing period. Eight semester-hour credits.

24. *Marine Engineering*.—Planned primarily for Powell Scholars.

PHILOSOPHY AND PSYCHOLOGY

WILLIAM CARL RUEDIGER, Ph.D.....Professor
SHEPHERD IVORY FRANZ, Ph.D. LL.D., M.D.....Professor
EDWARD ELLIOTT RICHARDSON, Ph.D.....Professor
HARRIET UNDERWOOD, A.B.....Assistant

First Section. Primarily for Undergraduates

1. *General Psychology*.—An introductory study of the principal facts and laws of the mental life. First half-year. *Mon., Wed., Fri.*, at 10.15. Three semester-hour credits. Professor RUEDIGER.

2. *General Psychology*.—Parallel with Course 1. First half-year. *Mon., Wed., Fri.*, at 5.00. Three semester-hour credits. Professor RUEDIGER.

3. *Logic*.—A study of the thinking process, the principles of deductive and inductive inference, and the nature, structure, and organization of knowledge. Second half-year. *Mon., Wed., Fri.*, at 10.15. Three semester-hour credits. Professor RUEDIGER.

4. *Logic*.—Parallel with Course 3. Second half-year. *Mon., Wed., Fri.*, at 5.00. Three semester-hour credits. Professor RUEDIGER.

Second Section. For Undergraduates and Graduates

20. *History of Philosophy*.—The more important epochs in the history of thought. Attention is directed to the relation of these distinctive

periods to the course of the world's progress. First half-year. *Tu., Th., Sat.*, at 10.15. Three semester-hour credits. Professor RICHARDSON.

21. *Ethics*.—A historical and theoretical course, with the aim of acquainting the student with the principal ethical theories. Reference is made to the application of these theories to concrete conditions. Second half-year. *Tu., Th., Sat.*, at 10.15. Three semester-hour credits. Professor RICHARDSON.

22. *Ethics*.—Similar to course 21. Second half-year. *Mon., Wed.*, at 5.50. Two semester-hour credits. Professor RICHARDSON.

24. *History of Philosophy*.—The development of philosophy, its nature and problems. This course while introductory is designed to be comprehensive and to give the student a general survey of the philosophic field. *Tu., Th.*, at 5.00. Four semester-hour credits. Professor RICHARDSON.

25. *Experimental Psychology*.—An introductory laboratory course. Experiments on sensation, movement, effects of practice, memory and association, emotional manifestations, etc., and practical work with the Binet and other mental tests. To be taken by graduate students who have not had experimental psychology and who are taking a major or minor in psychology. 1916-17. See Education 28. Two semester-hour credits. Professor RUEDIGER and Miss UNDERWOOD.

27. *Recent Philosophical Movements*.—A consideration of the various philosophical movements and tendencies of the immediate past. A critical study of the occasion and meaning of the trend of thought at the present time. Lectures and reading of recent books and periodicals. *Wed.*, at 5.00. Two semester-hour credits. Professor RICHARDSON.

28. *Philosophy of Nature*.—A critical examination of the concepts of physical science. An investigation of the significance of scientific laws and theories. 1916-17. Two semester-hour credits. Professor RICHARDSON.

(Courses 27 and 28 are given in alternate years.)

29. *Problems of Philosophy*.—An advanced course dealing with philosophical questions from the standpoint of the questions themselves rather than as these have been presented historically. A critical and constructive examination of fundamental philosophic principles and problems. Lectures, readings and reports. First half-year. *Mon., Wed.*, at 5.50. Two semester-hour credits. Professor RICHARDSON.

Third Section. Primarily for Graduates

50. *Seminar in Psychology*.—Not given in 1917-18. Professor RUEDIGER.

51. *Metaphysics*.—The principles of metaphysics and the problems of philosophy. An advanced course tracing the origin and development of metaphysical questions, and a critical examination of the attempted solution of these problems. Readings, conferences and written reports. Six semester-hour credits. Professor RICHARDSON.

52. *Advanced Experimental, Abnormal or Physiological Psychology.*—Course to be altered in different years in accordance with the needs of students. Prerequisite—courses in general psychology, and introductory experimental psychology. Conferences, reading of recent literature, and demonstrations. Ten semester-hour credits. Professor FRANZ.

53. *Research in Psychology.*—Advanced students, who select psychology as major or minor for the degree of A.M., or Ph.D., will be given special topics for investigation in abnormal, physiological or experimental psychology. To be preceded or accompanied by Course 52 or its equivalent. Ten semester-hour credits. Professor FRANZ.

PHYSICS

MORTON C. MOTT-SMITH, Ph.D. Assistant Professor
CHARLES EDWIN VAN ORSTRAND, S.M. Lecturer
HARVEY LINCOLN CURTIS, Ph.D. Lecturer

First Section. Primarily for Undergraduates

1. *General Physics.*—A recitation and lecture course, embracing the fundamental principles of mechanics, sound, heat, light, and electricity. The lectures are illustrated by experiments. This is a required course for Sophomores in Engineering, and may be elected by the general student who has completed Mathematics 9 or 12. *Mon., Wed., Fri.,* at 5.00. Six semester-hour credits. Assistant Professor MOTT-SMITH.

2. *Laboratory Physics.*—A selected series of experiments, mainly quantitative. Two two-hour periods. *Tu., Th.,* at 10.15 or *Tu., Th.,* at 7.30. Four semester-hour credits. Assistant Professor MOTT-SMITH, and Assistants.

3. *Introductory General Physics.*—A lecture and recitation course, similar to Course 1, but less mathematical, and planned with reference to the needs of the general student. *Mon., Wed., Fri.,* at 1.45. Six semester-hour credits. Assistant Professor MOTT-SMITH.

Second Section. For Undergraduates and Graduates

21. *Heat and Thermodynamics.*—A recitation and lecture course, based on Preston's Theory of Heat and Ennis' Applied Thermodynamics. *Mon., Wed., Fri.,* at 5.50. Six semester-hour credits. Not given in 1917-18. Assistant Professor MOTT-SMITH.

22. *Light*—A recitation and lecture course, based on Preston's Theory of Light and Schuster's Theory of Optics. *Mon., Wed., Fri.,* at 5.50. Six semester-hour credits. Assistant Professor MOTT-SMITH.

Third Section. Primarily for Graduates

57. *Statistical Mechanics and Kinetic Theory.*—This course includes Gibb's preliminary derivation of the fundamental equations of thermo-

dynamics and a discussion of the physical properties of gases from the standpoint of general dynamics. Viscosity, diffusion, heat conduction, Brownian movements, Van der Waal's equations and molecular aggregation and dissociation. Gibb's Statistical Mechanics and Jean's Dynamical Theory of Gases. A lecture and seminar course. *Monday* at 4.50. Not given in 1917-18. Six semester-hour credits. Mr. VAN ORSTRAND.

58. *ELASTICITY*. The physical properties of solids as applied to problems in geophysics. Homogeneous stress and strain. Potential energy of strained solids. Transmission of force. Propagation of earthquake waves. Love's Mathematical Theory of Elasticity. A lecture and seminar course. *Friday* at 4.50. Six semester-hour credits. Mr. Van ORSTRAND.

59. *Theoretical Electricity*.—A lecture course on the Mathematical theory of Electricity, using J. J. Thomson's Elements of Electricity and Magnetism as a basis. The fundamental propositions of electrical theory are discussed, and their applications to practical problems are pointed out. The solution of a number of problems is also required. Six semester-hour credits. Dr. CURTIS.

60. *Least Squares*. Derivation of the law of errors and adjustment of observations with special reference to the determination of the constants of empirical formulas. Merriman's Method of Least Squares. A lecture and recitation course. First half-year. *Monday* at 4.50. Two semester-hour credits. Mr. VAN ORSTRAND.

61. *Conduction of Heat*.—Fourier's analysis is applied to numerous problems in the diffusion of heat and substances. Ingersoll and Zobel's Mathematical Theory of Heat Conduction. A lecture and recitation course. Second half-year. *Mon.*, at 4.50. Two semester-hour credits. Mr. VAN ORSTRAND.

POLITICAL SCIENCE

CHARLES HERBERT STOCKTON, LL.D.....In charge of Department
WILLIAM MILLER COLLIER, A.M.....Lecturer
CHARLES EDWARD HILL, Ph.D.....Assistant Professor

First Section. Primarily for Undergraduates

1. *Government of the United States*.—This course includes a brief study of the factors that led to union among the colonies, of the Second Continental Congress, the Articles of Confederation and a deeper study of the organization and functions of the present government. First half-year. *Mon., Wed., Fri.*, at 10.15. Three semester-hour credits.

2. *Government of the United States*.—Parallel with Course 1. First half-year. *Mon., Wed., Fri.*, at 5.00. Three semester-hour credits.

3. *State Government*.—The Pennsylvania, Virginia and Massachusetts types, their evolution into the present prevailing form, powers of constitutional conventions, growth of executive responsibility, increase in

legislative limitations, extension of the suffrage, initiative, referendum, recall, judicial review, the short ballot, civil service, the influence of public opinion and its limitations, the police power and the control of public utilities are the leading topics. Second half-year. *Mon., Wed., Fri.*, at 10.15. Three semester-hour credits.

4. *State Government*.—Parallel with Course 3. Second half-year. *Mon., Wed., Fri.*, at 5.00. Three semester-hour credits.

6. *Political Parties in the United States*.—A study of the functions of political parties in our government, of their history, their organization, their responsiveness to public opinion and of what measures have come effectively within the scope of public opinion. First half-year. *Tu., Th., Sat.*, at 5.00. Three semester-hour credit.

8. *South American Republics*.—A sketch of their establishment and an analysis of the structure of their governments and a study of how these governments reflect economic and social conditions is the object of the course. Second half-year. *Tu., Th., Sat.*, at 5.00. Three semester-hour credit.

Second Section. For Undergraduates and Graduates

21. *Parliamentary Government*.—The English, Canadian, French and Italian systems with a notice of the relation of the ministry to the legislature in the Netherlands, Belgium, Norway, Sweden, Denmark, Spain and Japan give ample scope to the course. First half-year. *Tu., Th., Sat.*, at 5.00. Three semester-hour credits. To be given in 1918-19.

22. *The Governments of Germany, Austria-Hungary, Switzerland and Russia*.—Comparison and contrast with American organs and conditions furnish the point of view. Second half-year. *Tu., Th., Sat.*, at 5.00. Three semester-hour credits. To be given in 1918-1919.

23. *City Government in the United States*.—A study of the origin and structure of the mayor and council, commission and city manager plans, home rule, the relation of the city to the state, municipal powers and officers, social and individual rights and of references to European experience. First half-year. *Tu., Th., Sat.*, at 10.15. Three semester-hour credits.

24. *Constitutional Law*.—The interpretation of clauses in the constitutions of the United States and of the separate states affecting officers, courts, powers of Congress, police power and private rights as found in judicial decisions forms the subject-matter. Second half-year. *Tu., Th., Sat.*, at 10.15. Three semester-hour credits.

29. *Principles of International Law*.—A concise study of the nature, sources and sanctions of International Law. The laws of peace deal with the origin, classification, and essential rights and duties of states but not diplomatic relations; the laws of war deal with the sources and general relations between belligerents together with the rights and duties of neutrals. Lectures, text, assigned cases and a optional read-

ings and papers on selected topics. First half-year. *Mon., Fri.*, at 9.00. Two semester-hour credits. Lectures and assigned readings. President STOCKTON, supplemented by case instruction, Assistant Professor HILL.

30. *Elements of Diplomacy and Diplomatic Usage*.—A thorough study of the general principles of diplomatic usage; the history and organization of the Department of State; the rights, privileges and immunities of diplomatic and consular officers; the preliminaries, drafting, signing, and ratification of treaties, and an investigation of other amicable means for settling international differences. Lectures, text, assigned cases and additional readings and papers on selected topics. Second half-year. *Mon., Fri.*, at 9.00. Two semester-hour credits. Lectures and assigned readings, Mr. COLLIER, supplemented by case instruction, Assistant Professor HILL.

Third Section. Primarily for Graduates

51. *Readings in Political Science*.—This course is arranged to meet the individual needs of advanced students. The handling of materials, the choice of a theme, its discussion and writing are included. Hours will be arranged each half-year. Three semester-hour credits.

PREVENTIVE MEDICINE

EDWARD LYMAN MUNSON, A.M., M.D. Professor

Third Section. Primarily for Graduates

50. A seminar course dealing with vital statistics; etiology and prevention of infectious diseases; causes and prevention of infant mortality; prevention of disease of occupation; protective inoculations; municipal hygiene; national and interstate preventive measures. Ten semester-hour credits. Professor MUNSON.

ROMANCE LANGUAGES AND LITERATURES

GEORGE NEELY HENNING, A.M. Professor of Romance Languages
JOAQUIM DE SIQUEIRA COUTINHO, Kt., Sc.D. . . . Professor of Portuguese
WALTON COLCORD JOHN, A.M. Instructor in Spanish
JULES MAILLET. Instructor in French
HENRY GRATTAN DOYLE, A.M. Instructor in Romance Languages
EDWARD CULLOM, A.M. (From September 1, 1917) Instructor in French

French

First Section. Primarily for Undergraduates

1. *First-Year Course*.—Fraser and Squair's French Grammar. Grammar, composition, drill in pronunciation, translation and reading of

modern French fiction, comedy and history. For beginners. Section A. *Mon., Wed., Fri.*, at 9.15. Section B. *Tu., Th., Sat.*, at 9.15. Six semester-hour credits. Mr. DOYLE.

2. *First-Year Course*.—Parallel with Course 1. Fraser and Squair's French Grammar. For beginners. Section A. *Mon., Wed., Fri.*, at 5.50. Section B. *Tu., Th., Sat.*, at 5.50. Six semester-hour credits. Mr. CULLOM.

3. *Second-Year Course*.—Fraser and Squair's French Grammar. First text, Mérimée, "Colomba" (Heath); other texts to be announced. Open to students who have passed in French 1 or 2, or have fulfilled the admission requirements in Elementary French. *Mon., Wed., Fri.*, at 10.15. Six semester-hour credits. Professor HENNING.

4. *Second-Year Course*.—Parallel with Course 3. Fraser and Squair's French Grammar. First text, Mérimée, "Colomba" (Heath); other texts to be announced. *Tu., Th., Sat.*, at 5.00. Six semester-hour credits. Professor HENNING.

5. *General Survey of Modern French Literature*.—(Nineteenth, Eighteenth and Seventeenth Centuries).—Translation, collateral reading and reports thereon, lectures on literature and the history of the language, composition. Open to students who have passed in Course 3 or 4, or have fulfilled the admission requirements in Advanced French. *Mon. Wed., Fri.*, at 3.45. Six semester-hour credits. Professor HENNING.

6. *Parallel with French 5*, but omitting composition and the lectures on the history of the language. *Tu., Th., Sat.*, at 5.50. Six semester-hour credits. Professor HENNING. (This course will be given only if elected by at least six students at the beginning of the year.)

7. *Conversation and Composition*.—Open to students who have passed in French 1 or 2, or have fulfilled the admission requirements in Elementary French, or otherwise satisfy the instructor of their fitness to take it. *Mon., Wed., Fri.*, at 5.00. Four semester-hour credits. Mr. MAILLET.

Second Section. For Undergraduates and Graduates

Courses in this group are open to students who have passed in Course 5 or 6, or otherwise satisfy the instructor of their fitness to take them.

21. *Literature of the Seventeenth Century*.—History, philosophy, criticism, memoirs, letters, eloquence, drama, fiction, poetry. Balzac, Boileau, Corneille, Descartes, Fénelon, Mme. de la Fayette, La Bruyère, La Fontaine, La Rochefoucauld, Malherbe, Molière, Racine, Saint-Évremond, Saint-Simon, Mme de Sévigné, etc. Translation, collateral reading and reports thereon, lectures on literature and history. (Given in 1918-19.)

26. *Literature from 1750 to 1850; The Romantic Movement*.—History, criticism, travels, fiction, drama, lyric poetry. Rousseau, Bernardin de Saint-Pierre, Chénier; Balzac, Baudelaire, Chateaubriand, Gautier, Hugo, Lamartine, Michelet, Musset, Sainte-Beuve, George Sand, Mme.

de Staël, Thierry, Vigny, etc. Translation, collateral reading and reports thereon, lectures on literature and history. (Given in 1919-1920.)

28. *Literature from 1850 to the Present*.—History, philosophy, criticism, fiction, drama, lyric poetry. Augier, Brunetière, Daudet, Dumas fils, Flaubert, France, Heredia, Hervieu, Leconte de Lisle, Lemaître, Loti, Maeterlinck, Maupassant, Mérimée, Renan, Rostand, Sully Prudhomme, Taine, Verlaine, etc. *Mon., Wed., Fri.*, at 2.45. Six semester-hour credits. Professor HENNING.

50. *Old French*.—Philology and Literature. *La Chanson de Roland* and Chrétien de Troyes. Phonology and Morphology of Old French, with an outline of its development through Vulgar Latin. Survey of French Literature to the end of the 13th century. Some knowledge of Latin is essential. *Mon., Wed., Fri.*, 5.50. Six semester-hour credits. Mr. DOYLE.

55. One course in the literature of the seventeenth or of the nineteenth century will be arranged for competent graduates. *Mon., Wed., Fri.*, at 5. Six semester-hours credits. Professor HENNING.

Spanish

First Section. Primarily for Undergraduates

1. *First-Year Course*.—Coester's Spanish Grammar. Grammar, written and oral composition, drill in pronunciation, translation of modern Spanish fiction, comedy and history. For beginners. *Mon., Wed., Fri.*, at 1.45. Six semester-hour credits. Mr. JOHN.

2. *First-Year Course*.—Parallel with Course 1. Coester's Spanish Grammar. For beginners. *Mon., Wed., Fri.*, at 5.00. Six semester-hour credits. Mr. DOYLE.

3. *Second-Year Course*.—Review of grammar, composition, translation of modern Spanish prose and poetry, collateral reading. Open to students who have passed in Course 1 or 2, or have fulfilled the admission requirements in Elementary Spanish, or otherwise satisfy the instructor of their fitness to take the course. *Mon., Wed., Fri.*, at 10.15. Six semester-hour credits. Mr. DOYLE.

4. *Second-Year Course*.—Parallel with Course 3. *Tu., Th., Sat.*, at 5.00. Six semester-hour credits. Mr. DOYLE.

6. *Third-Year Course*.—General Survey of Spanish Literature. The Golden Age (Cervantes, Calderón, Lope de Vega); the Nineteenth Century; contemporary writers. Translation of representative works of drama, fiction, poetry. Lectures on the history of Spanish Literature. Outside reading and reports. Composition. Open to students who have passed in Spanish 3 or 4 or have done equivalent work. *Tu., Th., Sat.*, at 5.50. Six semester-hour credits. Mr. DOYLE.

Portuguese

First Section. Primarily for Undergraduates

2. *First-Year Course*. Portuguese as a Romance Language. Phonetics and drill in pronunciation, reading aloud of texts, dictation,

elementary grammar, translation and composition. For beginners. *Mon., Wed. Fri.*, at 5. Six semester-hour credits. Professor COUTINHO.

3. *First-Year Course*.—General survey of the history of the literature. No knowledge of Portuguese is necessary. *Mon., Fri.*, at 5.50. Four semester-hour credits. Professor COUTINHO.

4. *Second-Year Course*.—Advanced grammar, exercises, composition, translation of prose and poetry, collateral reading, conversation. *Tu., Th., Sat.*, at 5. Six semester-hour credits. Professor COUTINHO.

6. *Third-Year Course*.—Language, literature and philology. *Tu., Th., Sat.*, at 5.50. Three semester-hour credits. Professor COUTINHO.

SEMITIC LANGUAGES AND LITERATURE

ISRAEL SCHAPIRO, Ph.D. Professor

Second Section. For Graduates and Undergraduates

20. Elementary Hebrew.—Hebrew vocabulary and grammar; reading, translations of simple passages and briefer exercises. This course is open to beginners. Two hours a week. Four semester-hour credits.

22. Advanced Hebrew.—An intensive study of Hebrew grammar and its relation to Semitics in general. Comparative Semitic philology will be pursued. Translations of longer passages of prose and poetry. Readings and selections from the Old Testament and postbiblical literature. Two hours a week. Four semester-hour credits.

Third Section. Primarily for Graduates

50. Study of the history and development of Hebrew and cognate literatures. Certain epochs of Jewish History. A review of Modern Hebrew literature with particular emphasis on productions of the Haskala period. Special topics in addition to be selected by candidates. Six semester-hour credits.

SUMMER SCHOOL ARTS AND SCIENCES

1917

CALENDAR

June 23 *Saturday*—Registration, 9-12 a.m.; 4-6 p.m.
June 25 *Monday*—Instruction begins in all courses.
July 4 *Wednesday*—Holiday.
July 7 *Saturday*—Classes meet at the usual hours.
August 3-4 *Friday and Saturday*—Examinations.

FACULTY

CHARLES HERBERT STOCKTON, LL.D.....President of the University
WILLIAM CARL RUEDIGER, Ph.D.....Director of the Summer School

LEVI RUSSELL ALDEN, A.M.....Assistant Professor of History
HOMER WILLIAM BALL.....Assistant in Physics
PAUL BARTSCH, Ph.D.....Professor of Zoology
GERTRUDE RICHARDSON BRIGHAM, Ph.D.,

Instructor in Archaeology and History of Art
DE WITT CLINTON CROISSANT, Ph.D.....Professor of English
HENRY GRATTAN DOYLE, A.M.....Instructor in Romance Languages
CHARLES EDWARD HILL, Ph.D., Assistant Professor of Political Science
HARRY GRANT HODGKINS, A.B.....Instructor in Mathematics
HOWARD LINCOLN HODGKINS, Ph.D...Dean of the Department of Arts
and Sciences and Professor of Mathematics

ROBERT RUSS KERN, A.B.....Professor of Economics
CHARLES ELMER RESSER, A.M.....Instructor in Geology
EDWARD ELLIOT RICHARDSON, M.D., Ph.D.....Professor of Philosophy
WILLIAM CARL RUEDIGER, Ph.D.,

Dean of Teachers College and Professor of Educational Psychology
WILLIAM CARSON RYAN, A.B.,.....Instructor in Education
ALFRED FRANCIS WILLIAM SCHMIDT, A.M.....Professor of German
CHARLES SIDNEY SMITH, Ph.D.....Professor of Greek and Latin
OTIS DOW SWETT, S.B., LL.M.....Assistant Professor of Chemistry
HARRIET UNDERWOOD, A.B.....Assistant in Educational Psychology
WILLIAM ALLEN WILBUR, A.M., Litt.D.,

Dean of Columbian College and Professor of English

SCHEDULE OF CLASSES

Classes carrying two semester hours of credit will meet five times a week for six weeks, Saturdays being free except that on Saturday, July 7, classes will meet at the usual hours. No classes will be held on Wednesday, July 4.

Classes carrying three semester hours of credit will usually meet six times a week for seven and one-half weeks although where possible arrangements will be made to complete the work in six weeks.

Friday and Saturday, August 3 and 4, will be given over to examinations in the two unit courses. No final examinations may be given before those days. Examinations in all other courses will be held when the work has been completed.

If desired, the classes scheduled for eight o'clock will begin fifteen minutes before eight so as to close about twenty minutes before nine.

8-9	S23	Ornithology.....	4 credits	Professor Bartsch
	SI1	English Com- position.....	2 credits	Dr. Brigham
	SXXIV	Shakespeare's Tragedies.....	2 credits	Professor Wilbur
	SXL	Current Educa- tional Prob- lems.....	2 credits	Mr. Ryan
9-10	SXXIII	Philosophy.....	2 credits	Professor Richardson
	SI	Psychology.....	2 credits	Professor Ruediger
	SXLII	Vocational Edu- cation.....	2 credits	Mr. Ryan
	SKKI	Art.....	2 credits	Dr. Brigham
	SIa	General Eco- nomics.....	2 credits	Professor Kern
10-11	S3	Logic.....	2 credits	Professor Richardson
	S22	Sociology	2 credits	Professor Kern
	S21a	Principles o f Teaching.....	2 credits	Professor Ruediger
	SLX	American Lit- erature.....	2 credits	Professor Croissant
10-12	S28	Mental Tests, etc.....	2 credits	Miss Underwood
11-12	S23	Social Problems	2 credits	Professor Kern
	SA11	Greek.....	2 credits	Professor Smith
	SXL.....	Chaucer.....	2 credits	Professor Croissant
	S22	Ethics.....	2 credits	Professor Richardson
4-5	SI	United States Government .	2 credits	Assistant Professor Hill
4-5	SIa	Spanish.....	3 credits	Mr. Doyle
5-6	S4a	Second-year German.....	3 credits	Professor Schmidt

5-6	S4a	Second-year		
		Spanish.....	3 credits	Mr. Doyle
	S3	Geography	2 credits	Mr. Resser
	S4b	Plane Trigo-		
		nometry.....	2 credits	Mr. Hodgkins
	SXXII	Leading Ameri-		
		can Treaties	2 credits	Assistant Professor Hill
	S20a	American His-		
		tory.....	3 credits	Assistant Professor Alden
	S1	General Chem-		
		istry.....	6 credits	Assistant Professor Swett
5-7	S2	English Rhetor-		
		ic.....	4 credits	Professor Wilbur
	S3a	Physics.....	3 credits	Mr. Ball
5-10	S3	Chemistry.....	4 credits	Assistant Professor Swett
	S7	Chemistry.....	4 credits	Assistant Professor Swett
6-7	S4a	College Algebra	3 credits	Mr. Hodgkins
	S8a	Third-year Ger-		
		man.....	3 credits	Professor Schmidt
	S4a	Second-year		
		French.....	3 credits	Mr. Doyle
6-8	S1	Mineralogy....	4 credits	Mr. Resser
6-10	S2	Laboratory		
		Chemistry....	4 credits	Assistant Professor Swett

OPPORTUNITIES

The Summer School inaugurated in 1916 proved to fill a local as well as a national need and will be made an annual feature at George Washington University.

The opportunities for culture that may be enjoyed in Washington are unrivaled. The libraries, museums, and Government buildings are open daily for inspection and study, and both the city and vicinity are replete with places of historic interest. The knowledge of the nation's capital and its environs that may be gained during a six weeks' sojourn is alone no small part of a liberal education, and when this is combined with educational opportunities of the first order, the situation becomes ideal.

WORK OFFERED

Thirty-six different courses of study are offered. These are all of college grade, are given by regular members of the faculty or others ex-

perienced in college teaching, and represent essentially all the subjects of study found in the Department of Arts and Sciences.

Courses for which less than six students have registered by June 27 may, with the consent of the students concerned, be withdrawn.

If courses not announced in this Bulletin are desired an effort will be made to provide them if a sufficient demand is expressed by June first.

ADMISSION

No examinations or certificates of work completed in secondary schools will be required for admission to the Summer School, but no student will be allowed to register for any except an elementary course until he has given evidence satisfactory to the instructor concerned or to the Director that he is qualified to pursue the course to advantage.

REGISTRATION

The work in all classes will begin promptly on Monday, June 25, at the hours scheduled and registration should be completed before that time. The Director will be in his office to receive registrations daily from 10-12 a.m. and 4-6 p.m., June 18-23, and on June 23 all the instructors may be found for consultation in their respective classrooms either in the forenoon or late afternoon.

Students devoting all their time to study should be able to carry readily six semester-hours of work. No student may register for more than eight semester-hours to be completed in six weeks.

CREDIT

The units of credit in semester hours carried by the several courses are indicated both in the schedule of classes on page 129 and in the descriptive outlines of the courses on pages 133-138. A semester-hour of work is the equivalent of a course meeting once a week throughout a semester during the regular session of the University.

Work satisfactorily completed in the Summer School will be accredited toward a degree at George Washington University on the same basis as work completed during the regular session, but in no case will a student be accredited with more than eight semester-hours completed in one six weeks' session of the Summer School.

CERTIFICATES

Certificates of attendance and of work satisfactorily completed will be issued on or about September 1.

FEES

Tuition fee per semester-hour \$5.00

Laboratory fees:

Chemistry S 2, S 3, and S 7, each	\$10.00
Chemistry S 20 and S 21, each	25.00
Experimental Psychology.....	2.00
Mineralogy.....	5.00
Ornithology.....	5.00
Breakage deposit in chemistry, the amount paid in excess of breakage to be returned, S2, S3, and S7, each.....	10.00
Courses S 20 and S 21, each.....	25.00

The matriculation fee of \$5.00 due from students registering for the first time in any department of the University during the regular session is not applicable to the Summer School, but registration in the Summer School does not cancel the matriculation fee for students who may later register for the first time in the regular session of the University. Neither scholarships nor University and Ministerial aid are available to students in the Summer School.

PAYMENT OF FEES

All fees are due upon registration and are payable at the Treasurer's Office, 2024 G Street. Students who find it impossible to pay their fees by July 3 should make special arrangements with the Director when they register. No certificate of attendance or of credit will be issued unless all fees have been paid.

A student who is compelled through illness or other serious cause to withdraw before July 17 is entitled to a refund of one-half of the fees paid by him, but otherwise no reduction in the fees is made for withdrawal before the end of the session or for late entrance.

LIBRARY

The University Library, which is found in the first floor of the main building, will be open on school days from 8.30-12.30 and from 3-7, and on Saturday forenoons.

BOARD AND ROOMS

Living accommodations may be had for \$6 a week and up. Rooms alone cost \$2 a week and up. A register of suitable places is kept by the Treasurer from whom detailed information may be obtained.

ADDITIONAL INFORMATION

Additional information respecting the Summer School may be obtained by addressing,

W. C. RUEDIGER, *Director,*
George Washington University,
Washington, D. C.

COURSES OF INSTRUCTION

The letter S, meaning Summer, is prefixed to the numbers of courses to distinguish them from the courses offered during the regular session of the University. Courses corresponding approximately to those offered during the regular session are given corresponding numbers. Courses not so corresponding are assigned Roman numerals. The letters a and b following some of the numbers signify correspondence respectively to first and to second semester work of the regular session.

ART

S XXI. *History of Art*. An introductory course in the schools of painting and sculpture, including the Greek, Roman, Renaissance, intermediate and modern periods, with attention to English, French, and American art.

Illustrated lectures. Visits to the National Gallery and the Library of Congress. Special study may be arranged for advanced students. Daily at 9. Two semester-hour credits. Dr. BRIGHAM.

Biological Science

S 23. *Ornithology*.—A systematic course embracing lectures and laboratory work. The lectures are illustrated with lantern slides, showing the home life of birds. The laboratory work consists in classifying bird skins, of which the University possesses an excellent series. Special attention is directed to the study of the birds of the District of Columbia, and to this end frequent field trips are taken. Lecture at 8.00; laboratory, two hours daily at the student's convenience. Four semester-hour credits. Professor BARTSCH.

Chemistry

S 1. *General Chemistry*.—A series of illustrated lectures, accompanied by recitations and exercises, on theoretical, inorganic, organic, and technical chemistry. Daily at 5. 60 periods. Six semester-hour credits. Assistant Professor SWETT.

S 2. *Laboratory Practice*.—A laboratory course for the study of the principles of chemistry and the method of conducting chemical experiment. Daily 6-10. Four semester-hour credits. Assistant Professor SWETT.

(NOTE: Courses S 1 and S 2 should be taken together. Courses S 20, *Qualitative Analysis*, six semester-hour credits, and S 21, *Quantitative Analyses*, eight semester-hour credits, will be given if demanded.)

S 3. *Organic Experiments and Inorganic Preparations*.—First twelve periods, experiments in organic chemistry; last eighteen periods, syntheses of inorganic compounds. Daily 5-10. Four semester-hour credits. Assistant Professor SWETT.

S 7. *Qualitative Analysis*.—A brief course intended primarily for students in engineering. Daily 5-10. Four semester-hour credits. Assistant Professor SWETT.

Economics and Sociology

S 1a. *General Economics*.—An outline course in the principles of political economy, devoted mainly to the study of the processes of fixing market prices and to a study of the problems of rent, interest, wages, and profits. Daily at 9. Two semester-hour credits. Professor KERN.

S 22. *General Sociology*.—An outline course in the principles of sociology devoted mainly to the study of the organization of society, the social systems, their functions, efficiencies, and programs for their development. Daily at 10. Two semester-hour credits. Professor KERN.

S 23. *Modern Social Problems*.—A further analysis of modern social conditions with special studies of current questions in sociology. Prerequisite, the course in general sociology. Daily at 11. Two semester-hour credits. Professor KERN.

Classical Languages

S A II. *Xenophon's Anabasis*.—This course, which is designed primarily to supplement Greek A, described in the general catalogue, is intended to complete the amount of the Anabasis specified in the entrance requirement, together with a review of the grammar. It presupposes such knowledge of elementary Greek as would be gained by one year of college work or a year and a half of high school work. Daily at 11. Two semester-hour credits. Professor SMITH.

Education

S 21a. *Principles of Teaching*.—A course in the principles underlying the teaching process. Among the topics considered are: The problem of gaining realness; motivation; the basal teaching exercises; developmental and didactic instruction; questioning; the art of study; measuring the results of teaching. Daily at 10. Two semester-hour credits. Professor RUEDIGER.

S 28. *Experimental Education*.—A laboratory course in the Binet and other mental tests, supplemented by experiments in the methods and processes of learning. Ample opportunities for acquiring skill in applying mental tests will be provided for each member of the class. Daily 10-12. Two semester-hour credits. Miss UNDERWOOD.

S XL. *Current Educational Problems*.—A rapid review course covering such topics as: The junior high school; the Gary plan; standards and tests; educational surveys; school hygiene; rural education; school-houses as community centers; the Montessori method. Daily at 8. Two semester-hour credits. Mr. RYAN.

S XLII. *Vocational Education*.—A survey course designed for teachers and school officers seeking a broad view of the vocational training movement—history, present status and methods. Daily at 9. Two semester-hour credits. Mr. RYAN.

English

S 2. *English Rhetoric*.—A course covering the entire text of English Rhetoric. Daily 5-7. Four semester-hour credits. Professor WILBUR.

S 11. *English Composition*.—Practice in self-expression; correction of common errors; facility in writing; methods of research. Theme work, class discussion, and lectures. Daily at 8. Two semester-hour credits. Dr. BRIGHAM.

NOTE. The completion of courses S 2 and S 11 together will be accepted in full satisfaction of the curriculum requirement in Freshman English.

S IX. *American Literature*.—Lectures on the history of American literature with class discussion of collateral reading. Daily at 10. Two semester-hour credits. Professor CROISSANT.

S XXIV. *Shakespeare*. The Tragedies: Romeo and Juliet, Julius Caesar, Hamlet, Othello, King Lear, Macbeth, Anthony and Cleopatra, Coriolanus, Cymbeline. Daily at 8. Two semester-hour credits. Professor WILBUR.

S XL. *Chaucer*.—A brief consideration of Chaucer's language followed by the reading and discussion of texts. Daily at 11. Two semester-hour credits. Professor CROISSANT.

French

See Romance Languages

Geology

S 1. *Mineralogy*.—Crystallographic, descriptive, and determinative mineralogy. This course is designed with especial reference to minerals as rock constituents or segregated as ore deposits. It includes, therefore, a discussion not merely of the crystallographic and theoretical, but of the practical side of the subjects as well. Whenever possible, it should be considered as introductory to the courses in either systematic or economic geology. Daily 6-8. Four semester-hour credits. Mr. RESSER.

S 3. *Principles of Geography*.—This course considers the phenomena of the earth as a whole, the interrelations of these phenomena and their influence upon human affairs. It includes a study of the general geographical principles, including those of physiography and climate, and their application. Daily at 5. Two semester-hour credits. Mr. RESSER.

German

S 4a. *Second-Year German*.—The translation and interpretation of a classic, with special emphasis on syntax, the forces of prefixes and suffixes, and the relationship of German and English.

This course is the equivalent of the work done in the first semester in the University. Text-books: Goethe's Egmont. Thomas's Prac-

tical German grammar. Daily at 5. Three semester-hour credits. 45 periods. Professor SCHMIDT.

S 4b. A continuation course extending beyond the session of the Summer School will be offered either in Scientific German or in Classical German, as those who apply may prefer. Text-books: Dippold's German science reader. Morgan's Elementary German syntax. Three credits. Professor SCHMIDT.

S 8a. *Third-Year German*.—Either Advanced Technical and Scientific German or Conversation and Advanced Composition, as those who apply may prefer. Daily at 6. Three semester-hour credits. 45 periods. Professor SCHMIDT.

S 8b. A continuation course extending beyond the session of the Summer School will be offered either in Advanced Technical and Scientific German or in Conversation and Advanced Composition, as those who apply may prefer. Three semester-hour credits. Professor SCHMIDT.

Greek

See Classical Languages

History

S 20a. *American History*.—A study of the development of American nationality from the adoption of the constitution through the first half of the nineteenth century. Text-book, lectures, and reports. Daily at 5. Three semester-hour credits. 45 periods. Assistant Professor ALDEN.

Mathematics

S 4a. *College Algebra*.—Bowser's College Algebra. Ratio and proportion. Chapter XVI to the end of the book. Daily at 6. Three semester-hour credits. 45 periods. Mr. HODGKINS.

S 4b. *Plane Trigonometry*.—Crocket's Trigonometry. All of plane trigonometry. Daily at 5. Two semester-hour credits. Mr. HODGKINS.

NOTE. These courses will be duplicated respectively at 9 and at 10 by Professor HODGKINS if the demand justifies.

Philosophy and Psychology

S 1. *General Psychology*.—An introductory study of the principal facts and laws of the mental life. Daily at 9. Two semester-hour credits. Professor RUEDIGER.

S 3. *Logic*.—The principles of deductive and inductive inference. Daily at 10. Two semester-hour credits. Professor RICHARDSON.

S 22. *Ethics*.—A course designed to acquaint the student with ethical theories and their application to the more important problems of experience. Daily at 11. Two semester-hour credits. Professor RICHARDSON.

S XXIII. *Introduction to Philosophy*.—A course, designed for beginners in philosophy, dealing with the nature of philosophy, the prin-

ciples underlying it, and the principal theories that have arisen in the development of philosophic thought. This course is intended to give a general survey of the subject and to lead to more advanced work. Daily at 9. Two semester-hour credits. Professor RICHARDSON.

Physics

S 2a. Laboratory Physics. Thirty two-hour periods. Two semester-hour credits. 5-7. Mr. BALL.

S 3a. Introductory General Physics. 45 periods. Three semester-hour credits. 6-7. Mr. BALL.

Political Science

S 1a. *Government of the United States*. This course includes a brief study of the factors that led to union among the colonies, of the Second Continental Congress, the Articles of Confederation and a deeper study of the organization and functions of the present government. Daily at 4. Two semester-hour credits. Assistant Professor HILL.

S XXII. *Leading American Treaties*. The course covers the historical setting of the leading treaties, a sketch of the negotiators and their work, the terms and the application of those terms to later events. It endeavors to discover what principles of International Law and elements of diplomacy have been applied to our international relations. Daily at 5. Two semester-hour credits. Assistant Professor HILL.

Romance Languages

French

S 4a. *Second Year Course* (equivalent to the first semester of French 3 or 4, given during the regular session of the University). Review of French grammar, based on Fraser and Squair's French Grammar (Heath); oral and written composition; translation of modern French prose. First text, Halévy's *Un mariage d'amour* (Heath); others to be announced. Open to students who have received credit for one year in French, or have fulfilled the admission requirements in Elementary French, or who otherwise satisfy the instructor of their fitness to take the course. Daily at 6. 45 periods. Three semester-hour credits. Mr. DOYLE.

S 1a. *First Year Course*.

NOTE. If sufficient demand manifests itself, a course in Elementary French, equivalent to the first semester of French 1 or 2, given during the regular session of the University, will be provided.

Spanish

S 1a. *First Year Course* (equivalent to the first semester of Spanish 1 or 2, given during the regular session of the University). For beginners. Elements of Spanish grammar, drill in pronunciation, oral and written composition, translation of modern Spanish prose. Texts:

Coester's Spanish Grammar (Ginn), Roessler and Reny's First Spanish Reader (American Book Company). Daily at 4. 45 periods. Three semester-hour credits. Mr. DOYLE.

S 4a. *Second Year Course* (equivalent to the first semester of Spanish 3 or 4, given during the regular session of the University). Review of Spanish grammar, oral and written composition, translation of modern Spanish prose (fiction, drama, description). Texts: (composition) Waxman's *A Trip to South America* (Heath); (reading) Taboada's *Cuentos alegres* (Heath); other texts to be announced. Open to students who have passed in first-year Spanish, or have had one year of college Spanish or its equivalent, or who otherwise satisfy the instructor of their fitness to take the course. Daily at 5. 45 periods. Three semester-hour credits. Mr. DOYLE.

SUMMER SCHOOL

MEDICAL

The courses given below will cover the same ground and will be given in a similar manner to those that are given during the regular winter semesters.

These courses are primarily outlined to meet the needs of Medical and Dental Students.

The hours given below referring to the time of day for which any particular course is scheduled, are tentative, and may be changed to suit the majority of the class, provided the hours chosen are between 8 a.m. and 6 p.m.

Special arrangements may be made for Veterinary, and Special Students, should a sufficient number apply.

A course will not be given where the number of applicants is less than six.

Before registering for any particular subject all candidates will be required to furnish satisfactory evidence of adequate preparation. No candidate will be allowed to register for more than two subjects except under special considerations.

Students taking these courses during the summer and entering the school in any regular course in the fall, will be allowed a refund of one-half of the summer tuition price in part payment for their regular tuition.

Anatomy

Courses to be conducted by Dr. Wm. R. BUCHANAN.

Course No. 1. Dissection of the entire body, excepting the brain.

June 11 to August 4, 1917, daily.

Period: five (5) hours

Tuition..... \$30 (No refund).

This course is primarily designed for graduates and students who wish to review their anatomy. No credit will be allowed undergraduate students taking this course.

Course No. 2. Dissection of Head, Neck and Back.

June 11 to August 4, 1917, daily.

Period: Three and one-half (3½) hours

Tuition..... \$30

Course No. 3. Dissection of Lower Extremity and Perineum.

June 11 to August 4, 1917, daily.

Period: Three and one-half (3½) hours.

Tuition..... \$30

Histology and Embryology

Under direction of Professor HUNTER.

Course begins June 11, and ends August 11, 1917.

Periods per week, Six (6).

Hours per period up to 7/30/17, Four (4) 2 to 6 p.m.

Hours per period from 7/31/17, Five (5), 1 to 6 p.m.

Tuition for combined course.....	\$60.00	
Microscope fee.....	6.00	\$66.00

Tuition for Histology only.....	\$40.00	
Microscope.....	5.00	\$45.00

Tuition for Embryology only.....	\$20.00	
Microscope and material.....	2.50	\$22.50

In Histology instruction is given in the care and use of the microscope and in the preparation of tissues (fixing, blocking, cutting, staining, etc.) for microscopical examination, and a systematic study is made of the minute structure of the tissues and organs of the body, the laboratory work being supplemented by lectures, recitations and stereopticon demonstrations.

The course in Embryology is devoted to the study of marine material, showing maturation, impregnation, segmentation, etc., and to series of chick and mammalian embryos, special stress being laid upon the development of the foetal membranes and organs. Lectures, recitations and demonstrations with laboratory models are also given.

Bacteriology, Clinical Microscopy and Dental Pathology

Under direction of Professors LYON and HUNTER.

Course begins June 11, and ends August 4, 1917.

Periods per week, Five (5).

Hours per period, Four (4). Time 8-12 a.m.

Tuition.....	\$50.00	
Microscope.....	5.00	\$55.00

The laboratory portion of this course consists, in the first place, of instruction of the whole class in the preparation of culture media, all the standard, and many of the special media, being prepared by the class in groups, as their practical needs require. In this connection and at later periods throughout the course, the particulars of sterilization and disinfection are thoroughly covered. The systematic portion of the course in the laboratory consists in the detailed study by culture, by the microscope, and by biological methods, of some forty different micro-organisms mostly of the pathogenic group. During the course,

where occasion arises in connection with special cases of interest in the hospital, or elsewhere at our command, a number of unusual infections or rarely occurring processes of diagnosis, etc., are demonstrated.

In connection with the experience given in microscopic preparation, staining, etc., a thorough discipline in the use of the compound microscope as applied in the high powers is afforded, together with a review of the necessary theories of microscopic optics.

Infection and Immunity.—This important portion of the subject which may be considered as the theoretical side of Bacteriology in its relation to Pathology, is dealt with systematically throughout the year in a series of lectures, once a week or more frequently.

All the known methods of attack on the animal body by bacteria, and all the theories as well as facts of the defence of the animal body against this attack are dealt with both in historical and logical sequence. The so-called "schools" (of von Metchnikoff, Bordet, and Ehrlich) are considered in parallel with the history of the subject.

Not only by lectures but by demonstrations as well, such features of practical immunology as the agglutination reaction, lysis, and phagocytosis are demonstrated and inquired into by the students themselves. During the year, demonstration of the practical diagnostic work in the laboratory, covers the whole field of Wassermann and complement fixation technic.

Clinical Microscopy

Course begins June 18, and ends August 4, 1917.

Periods per week, Three (3). Tues. Thurs. and Sat.

Hours per period, Three (3). Time 9-12 a.m.

Tuition.....	\$10.00	
Microscope.....	5.00	\$15.00

This course comprises the study and examination of various tissues, fluids, and material from the standpoint of diagnosis.

NOTE. See Clinical Chemistry.

Dental Pathology

A course in this subject will be given provided that not less than ten (10) applicants register therefor. This course will cover the general pathology of inflammation, degenerations, of the healing of wounds, of new growths, etc.; and the special pathology of organs and of special diseases, particular stress being given to those peculiar to the mouth and gastro-intestinal tract.

Tuition.....	\$30.00	
Microscope.....	5.00	\$35.00

In all laboratory courses a deposit of \$10.00 to cover breakage is required.

Chemistry

All courses in Chemistry in the Medical and Dental Schools will be given by Professor HORNADAY or Dr. ELLISON.

1. *Inorganic Review*.—A series of recitations, in which the subject is reviewed and its relation to medicine emphasized.

June 18 to July 28, 1917.

Periods per week, Six (6).

Hours per period, One (1). Time, 11 a.m.

Tuition..... \$10.00

2. *Qualitative Analysis*.—An abridged course, with stress upon its application in medicine.

June 18 to July 28, 1917.

Periods per week, Six (6).

Hours per period, Five (5). Time 9 to 12 a.m., and 1 to 3 p.m.

Tuition..... \$30.00

3. *Organic Chemistry*.—A series of lectures, laboratory work, and recitations on the acyclic and cyclic hydrocarbons and their derivatives, with special reference to physiology and medicine.

June 18 to July 28, 1917.

Lectures and recitations:

Periods per week, Six (6).

Hours per period, One (1). 9 a.m.

Tuition..... \$10.00

Laboratory:

Periods per week, Three (3).

Mon., Wed., Fri., at 10 a.m. Three (3) hours.

Tuition..... \$15.00

4. *Physiological Chemistry*.—A series of lectures, laboratory work, and recitations on the proximate principles of the human body.

June 18 to July 28, 1917.

Periods per week, Six (6)

Hours per period, Three (4½). Time 1 p.m.

Tuition..... \$40.00

5. *Clinical Chemistry*.—A thorough course is given in which material from the University Hospital and Dispensary is utilized to show the practical application of this subject in medicine.

June 18 to July 28, 1917.

Periods per week, Three (3).

Mon., Wed., Fri., at 1 p.m.

Tuition..... \$15.00

Metallurgy

This course consists of recitations and laboratory work on the occurrence, methods of isolation, properties and uses of metals of value in dentistry.

Demonstrations are given in the use and care of furnaces, including the construction of an electric furnace and the winding of a muffle therefor. Students prepare several alloys and amalgams, and isolate silver and gold from alloy scraps.

The course will be given in twenty-five periods of three hours each at such time as may be agreed upon with the class.

Primarily for dental students.

Tuition..... \$25.00

Dental Physiology

1. PHYSIOLOGY—A series of lectures, demonstrations, and quizzes, covering digestion, circulation, respiration, secretion and metabolism. The nervous system is covered with the exception of the special senses.

June 12th to July 28th, 1917.

Periods per week Four (4)

Hours per period, Two (2)

Tues., Wed., Fri., 5 to 7 p.m., Sat., 2 to 4 p.m.

Tuition..... \$20.00

2. LABORATORY PHYSIOLOGY—A course in laboratory physiology, including lectures, demonstrations, and instruction in the use of laboratory apparatus with experimental work on nerve, muscle and heart preparations, amphibian and mammalian.

June 14th to July 28th, 1917

Periods per week Two (2)

Hours per period two and one-half (2½)

Thurs. and Sat. 4.50 to 7.20

Tuition..... \$15.00

SUMMER SCHOOL

LAW

The summer session of the Law School for 1917 will cover a period of six weeks. Lectures will begin Monday, June 25, and close Saturday, August 4. Examinations will be held August 6, 7, and 8.

The purpose of this session is to lighten or supplement the work of the regular session by enabling students to complete subjects usually taken in the regular session, or to shorten the period of study for a degree.

Subjects have been selected to afford proper work both for students beginning the study of law and for advanced students. All the subjects selected will be conducted by regular members of the faculty and the character of instruction and the amount and grade of work required will be the same as that of the regular session.

Terms of Admission

The regular entrance requirements of the school will not be enforced for the summer session, but candidates will be permitted to register only for subjects for which they show adequate preparation.

(Admission to the summer session is special and does not waive the requirements for admission for the regular session. These must be satisfied as outlined in the announcement for 1916-17, and the matriculation fee will be payable on general admission.)

Fees

Tuition fees will be at the same rate as for the regular session, i.e., ten dollars for each subject except Conflict of Laws which will be twenty dollars. No matriculation or library fee will be charged.

All fees are due upon registration. Students who find it impossible to pay their fees by July 3rd, must consult the Secretary of the Law School in respect to making a satisfactory postponement.

A student who is compelled to withdraw before July 16th, is entitled to a refund of one-half of the fees paid by him, but otherwise no reduction in the fees is made for withdrawal before the end of the session or for late registration.

Hours of Recitation

The schedule is so arranged that one subject may be taken in the morning from 7.50 to 8.40, a second from 4.50 to 5.40 and a third from 5.40-6.30. Unemployed students may take all three periods, aggregating 15 hours per week. Employed students are restricted to two periods per day, aggregating ten periods per week.

Classes in morning subjects are held from Tuesday to Saturday inclusive, classes in afternoon subjects from Monday to Friday, inclusive. During the week beginning July 2, all classes will meet Monday to Saturday inclusive except on Wednesday, July 4, which will be a holiday.

With the consent of all the students who register in the afternoon classes in Conflict of Laws and Municipal Corporations, these subjects may be changed to the morning hours.

COURSES OF INSTRUCTION

First Year Subjects

Personal Property.—Distinction between personal and real property; nature of and rights based upon possession; some methods of acquiring title to chattels; liens and pledges; conversion. Warren's Cases on Personal Property, 7.50–8.40 a.m. Mr. VAN VLECK.

Principles of Legal Liability.—Nature of an act; causation of injury; proximity or remoteness of injury as affecting tort or criminal liability of the actor; effect of interposition of other causes including natural forces and acts of animals and human beings; excuses for acts causing injury including duty, public authority, defence of person and property and consent of injured person. Beale's Cases on Legal Liability, 4.50–5.40 p.m. Mr. CRANE.

Advanced Subjects

Mortgages.—A study of the law of mortgages as it exists today in the United States and in England. The course aims to present the two existing theories as to mortgage security. It deals with both real estate and chattel mortgages, considering in detail the various forms of mortgages commonly in use in commercial communities together with the rights and liabilities arising thereunder. Kirchwey's Cases on the Law of Mortgage, 5.40–6.30 p.m. Mr. PARKS.

Municipal Corporations.—The nature and constitution of a municipal corporation; its powers including legislation, taxation, contracts, expenditures, police power, acquisition and management of property; its liabilities in contract and tort; remedies against a municipal corporation. Beale's Cases on Municipal Corporations. 5.40–6.30 p.m. (May be changed to morning with the consent of the students registered.) Mr. PARKS.

Partnership.—Formation; title to partnership property; partnership liability; rights and duties of partners inter se; rights and remedies of creditors. Ames' Cases on Partnership. 4.50–5.40 p.m. Mr. CRANE.

Conflict of Laws.—(1) Jurisdiction; (a) of law over persons and things; (b) of courts, in rem, in personam, quasi in rem, and for divorce; (2) Creation and enforcement of foreign rights; (a) limitations upon enforcement of such rights; (b) remedies, including rights of action and

procedure; (c) particular classes of rights, including personal rights, property rights, tort rights, contract rights; (d) administration of estates. Lorenzen's Cases on Conflict of Laws, 4.50-6.30 p.m. Mr. SCHREIBER.

Credit

Students who are qualified for admission as candidates for degrees, will be given two semester hours credit for each topic completed (Conflict of Laws four semester hours) towards the degree.

Other students will be given a certificate when they request it.

DEPARTMENT OF MEDICINE, INCLUDING THE
MEDICAL SCHOOL, UNIVERSITY HOSPITAL AND
DISPENSARY, THE TRAINING SCHOOL FOR
NURSES, AND THE DENTAL SCHOOL

MEDICAL SCHOOL

FACULTY

CHARLES HERBERT STOCKTON, LL.D....PRESIDENT OF THE UNIVERSITY

WILLIAM CLINE BORDEN, M.D.,

Dean, Department of Medicine and Professor of Surgery

GEORGE NICHOLAS ACKER, A.M., M.D.,

Professor of Pediatrics and Clinical Professor of Medicine

HENRY CRÈCY YARROW, M.D..... Professor of Dermatology, Emeritus

DANIEL KERFOOT SHUTE, A.B., M.D.,

Clinical Professor of Ophthalmology

STERLING RUFFIN, M.D..... Professor of Medicine

CHARLES EDWARD MUNROE, Ph.D., LL.D..... Professor of Chemistry

CHARLES WILLIAMSON RICHARDSON, M.D.,

Professor of Laryngology, Rhinology, and Otology

JOHN WESLEY BOVÈE, M.D..... Professor of Gynecology

THOMAS ASH CLAYTOR, M.D..... Clinical Professor of Medicine

AURELIUS RIVES SHANDS, M.D..... Professor of Orthopedic Surgery

RANDOLPH BRYAN CARMICHAEL, M.D..... Professor of Dermatology

FRANCIS RANDALL HAGNER, M.D.... Professor of Genito-Urinary Surgery

WILLIAM CREIGHTON WOODWARD, LL.M., M.D.,

Professor of Medical Jurisprudence

ALBERT LIVINGSTON STAVELY, M.D... Clinical Professor of Gynecology

WILLIAM ALANSON WHITE, M.D.,

Professor of Psychiatry and Clinical Professor of Neurology

SHEPHERD IVORY FRANZ, Ph.D., LL.D., M.D.. Professor of Physiology

WILLIAM KENNEDY BUTLER, A.M., M.D... Professor of Ophthalmology

BUCKNER MAGILL RANDOLPH, M.D.,

Professor of Materia Medica and Therapeutics

LUTHER HALSEY REICHELDERFER, M.D., Clinical Professor of Surgery

JAMES DUDLEY MORGAN, A.B., M.D.,

Clinical and Associate Professor of Medicine

LOUIS ANATOLE LAGARDE, M.D.,

Professor of Military Surgery and Sanitation

GIDEON BROWN MILLER, S.B., M.D... Clinical Professor of Gynecology

OSCAR BENWOOD HUNTER, A.B., M.D., Professor of Histology and

Embryology and Associate Professor of Anatomy

WILLIAM SINCLAIR BOWEN, M.D..... Clinical Professor of Obstetrics

OSCAR ADDISON MACK McKIMMIE, M.D.,

Clinical Professor of Laryngology and Otology

- LOUIS MACKALL, M.D.....Clinical Professor of Medicine
 CARL LAWRENCE DAVIS, M.D.....Professor of Anatomy
 EDWARD RHODES STITT, A.B., M.D....Professor of Tropical Medicine
 FRANK LEECH, M.D.....Clinical Professor of Medicine
 WILLIAM PHILLIPS CARR, M.D.....Clinical Professor of Surgery
 HURON WILLIS LAWSON, S.M., M.D.....Professor of Obstetrics
 FRANK ADELBERT HORNADAY, S.B., M.D.,
 Professor of Physiological Chemistry
 *JOSEPH DUERSON STOUT, Ph.D., M.D.....Professor of Pharmacology
 and Associate Professor of Physiology
 THOMAS CHARLES MARTIN, M.D.....Professor of Proctology
 MARCUS WARD LYON, JR., Ph.D., M.D.,
 Professor of Bacteriology and Pathology
 EDWARD LYMAN MUNSON, A.M., M.D.,
 Professor of Preventive Medicine
 HARRY HYLAND KERE, M.D.....Clinical Professor of Surgery
 WILLIAM PINKNEY REEVES, M.D.....Clinical Professor of Surgery
 EDGAR SNOWDEN, M.D.,
 Professor of Hygiene and Clinical Associate in Obstetrics
 JOHN RYDER WELLINGTON, M.D.....Clinical Professor of Surgery
 TRUMAN ABBE, M.D.....Professor of Roentgenology
 CHARLES STANLEY WHITE, M.D.....Associate Professor of Surgery
 JAMES HAROLD COLLINS, A.B., M.D.,
 Associate Professor of Pharmacology and Physiology
 DANIEL WEBSTER PRENTISS, S.B., M.D., Clinical Associate in Surgery
 JOHN BENJAMIN NICHOLS, M.D.... Associate in Medicine and Dietetics
 EDGAR PASQUAL COPELAND, M.D.....Associate in Pediatrics
 HARRY HAMPTON DONNALLY, A.M., M.D., Clinical Associate in Pediatrics
 HENRY RANDALL ELLIOTT, M.D.....Associate in Physiology
 J. LEWIS RIGGLES, M.D.....Associate in Gynecology
 WILLIAM CABELL MOORE, M.D.....Associate in Medicine
 CHARLES AUGUSTUS SIMPSON, M.D., Clinical Associate in Dermatology
 COURSEN BAXTER CONKLIN, S.B., M.D.,
 Associate in Medicine and Anaesthesia
 JOSEPH DECATUR ROGERS, M.D.,
 Clinical Associate in Obstetrics and Surgery
 ROBERT YOUNG SULLIVAN, M.D.....Clinical Associate in Obstetrics
 CHARLES WHEATLEY, M.D.....Clinical Associate in Pediatrics
 DANIEL LERAY BORDEN, S.B., M.D.,
 Associate in Surgery and Gynecology
 CHARLES WILBUR HYDE, M.D., Associate in Medicine and Anaesthesia
 WILLIAM JOHNSTON MALLORY, A.M., M.D.....Associate in Medicine
 ALBERT ELWOOD PAGAN, M.D., Associate in Gynecology and Obstetrics
 EDWARD GRANT SEIBERT, M.D.,
 Clinical Instructor in Laryngology and Ophthalmology

* On leave of absence.

- WALTER HIBBARD MERRILL, M.D.,
Instructor in Electro-Therapeutics and Roentgenology
- JOHN POTTS FILLEBROWN, M.D.....Clinical Instructor in Surgery
- VIRGIL B. JACKSON, M.D.....Clinical Instructor in Gynecology
- EDMUND THOMAS MURDAUGH FRANKLIN, M.D.,
Clinical Instructor in Surgery
- ADAM KEMBLE, M.D., Clinical Instructor in Genito-Urinary Surgery
- HOMER GIFFORD FULLER, M.D.,
Clinical Instructor in Genito-Urinary Surgery
- CLINE N. CHIPMAN, M.D.....Instructor in Anaesthesia
- ALBERT PERKINS TIBBETS, A.B., M.D.,
Clinical Instructor in Laryngology
- ELIJAH WHITE TITUS, Phar.D., M.D.....Instructor in Pediatrics
- WILLIAM HENRY HUNTINGTON, M.D.,
Clinical Instructor in Laryngology and Otology
- JANVIER WHITTON LINDSAY, A.B., M.D.,
Instructor in Physical Diagnosis
- HARRY SAMUEL LEWIS, M.D.....Clinical Instructor in Surgery
- JOHN HUNTER SELBY, M.D.....Instructor in Roentgenology
- ROBERT SAMUEL TRIMBLE, M.D.....Clinical Instructor in Medicine
- WILLIAM BROWNE CARR, M.D.....Instructor in Morbid Anatomy
- HARRY A. BISHOP, M.D.....Clinical Instructor in Neurology
- OLIVER CLEMENCE COX, M.D.....Instructor in Minor Surgery
- WILLIAM BERRY MARBURY, M.D.....Instructor in Surgery
- SACKS BRICKER, M.D.....Clinical Instructor in Obstetrics
- SAMUEL HARRISON GREENE, M.D.,
Clinical Instructor in Laryngology and Otology
- WILLIAM HOUSTON LITTLEPAGE, M.D., Clinical Instructor in Medicine
- JAMES ROBERT SCOTT, Ph.D., M.D.,
Instructor in Bacteriology and Pathology
- JAMES CHARLES HASSALL, M.D.,
Instructor in Psychiatry and Clinical Neurology
- EVERETT MONROE ELLISON, A.M., M.D.,
Instructor in Pharmacology and Chemistry
- WILLIAM DAVID TEWKSBURY, M.D.....Clinical Instructor in Medicine
- THOMAS MADDEN FOLEY, M.D.....Instructor in Orthopedic Surgery
- CUSTIS LEE HALL, M.D.....Clinical Instructor in Orthopedic Surgery
- HOWARD FRANCIS KANE, A.B., M.D.....Instructor in Obstetrics
- ROSS McCLURE CHAPMAN, M.D.,
Instructor in Psychiatry and Neurology
- WILLIAM RALPH BUCHANAN, M.D.....Instructor in Anatomy
- CARROL EDWARD BINGMAN, M.D.....Clinical Instructor in Medicine
- THOMAS LINVILLE, M.D.....Clinical Instructor in Medicine
- THOMAS MILLER Jr., M.D.....Clinical Instructor in Medicine
- SAMUEL BOYCE POLE, M.D.,
Clinical Instructor in Laryngology and Otology
- FREDERICK WILLIAM WARDEN, R.A., M.R.C.S., L.R.C.P.,
Clinical Instructor in Surgery

THE STAFF OF THE GEORGE WASHINGTON UNIVERSITY HOSPITAL AND DISPENSARY

HOSPITAL

STERLING RUFFIN, M.D.....	Physician-in-Chief
GEORGE NICHOLAS ACKER, M.D.,	
PEDIATRICIAN-IN-CHIEF AND ASSOCIATE PHYSICIAN	
BUCKNER MAGILL RANDOLPH, M.D.	Associate Physician
COURSEN BAXTER CONKLIN, M.D.,	
ASSOCIATE PHYSICIAN AND ANAESTHETIST	
WILLIAM CLINE BORDEN, M.D.....	Surgeon-in-Chief
CHARLES STANLEY WHITE, M.D.....	Associate Surgeon
AURELIUS RIVES SHANDS, M.D.....	Orthopedic Surgeon
FRANCIS RANDALL HAGNER, M.D.....	Genito-Urinary Surgeon
HOMER GIFFORD FULLER, M.D.....	Associate Genito-Urinary Surgeon
JOHN WESLEY BOVÉE, M.D.....	Gynecologist-in-Chief
HURON WILLIS LAWSON, M.D.....	Obstetrician-in-Chief
EDGAR PASQUAL COPELAND, M.D.....	Associate Pediatrician
HENRY CRÈCY YARROW, M.D.....	Dermatologist-in-Chief
RANDOLPH BRYAN CARMICHAEL, M.D.....	Associate Dermatologist
CHARLES WILLIAMSON RICHARDSON, M.D.....	Laryngologist
DANIEL KERFOOT SHUTE, M.D.....	Ophthalmologist
WILLIAM KENNEDY BUTLER, M.D.....	Ophthalmologist
EDWARD GRANT SEIBERT, M.D.,	
ASSOCIATE LARYNGOLOGIST AND OPHTHALMOLOGIST	
TRUMAN ABBE, M.D.....	Roentgenologist-in-Chief
JOHN HUNTER SELBY, M.D.....	Roentgenologist
WALTER HIBBARD MERRILL, M.D.....	Roentgenologist
OSCAR BENWOOD HUNTER, M.D.....	Pathologist
FRANK ADELBERT HORNADAY, S.B., M.D.,	
DIRECTOR OF THE CLINICAL LABORATORY	
CHARLES WILBUR HYDE, M.D.....	Anaesthetist
CLINE N. CHIPMAN, M.D.....	Anaesthetist
ALBERT JOHN MOLZAHN, M.D.....	Resident Physician
HENRY GILBERT HADLEY.....	Senior Student Intern
JAMES EDWIN HOUGHTON.....	Senior Student Intern
EARLE EUGENE SULLIVAN.....	Senior Student Intern
SIMON GERBER, Phar.D.....	Pharmacist
MARY WINIFRED GLASCOCK, R.N.....	Superintendent of Nurses and
PRINCIPAL OF THE TRAINING SCHOOL FOR NURSES	
JOHN BRUCE COPPING.....	Superintendent of the Hospital

DISPENSARY

STERLING RUFFIN, M.D.....	Physician-in-Chief
JOHN WESLEY BOVÉE, M.D.....	Gynecologist-in-Chief
WILLIAM CLINE BORDEN, M.D.....	Surgeon-in-Chief

HURON WILLIS LAWSON, A.M., M.D.....Obstetrician-in-Chief
 THOMAS MILLER, Jr., M.D.....Director of the Dispensary

General Medicine

BUCKNER MAGILL RANDOLPH, M.D.....Attending Physician
 WILLIAM CABELL MOORE, M.D.....Attending Physician
 WILLIAM JOHNSTON MALLORY, M.D.....Attending Physician
 ROBERT S. TRIMBLE, M.D.....Attending Physician
 THOMAS MILLER, Jr., M.D.....Attending Physician
 THOMAS LINVILLE, M.D.....Attending Physician

General Surgery

TRUMAN ABBE, M.D.....Attending Surgeon
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 JOHN POTTS FILLERBROWN, M.D.....Attending Surgeon
 FREDERICK WILLIAM WARDEN, R.A., M.R.C.S., L.R.C.P.,
 Attending Surgeon

Genito-Urinary Diseases

FRANCIS RANDALL HAGNER, M.D.....Genito-Urinary Surgeon
 ADAM KEMBLE, M.D.....Attending Surgeon

Gynecology

DANIEL LERAY BORDEN, M.D.....Attending Gynecologist
 ALBERT ELWOOD PAGAN, M.D.....Attending Gynecologist

Obstetrics

HURON WILLIS LAWSON, M.D.....Obstetrician-in-Chief
 SACKS BRICKER, M.D.....Attending Obstetrician Out-Patient Service
 ALBERT EDWARD PAGAN, M.D.....Attending Obstetrician

Eye, Ear, Throat, and Nose

EDWARD GRANT SEIBERT, M.D.....Laryngologist and Ophthalmologist
 ALBERT PERKINS TIBBETS, M.D.,
 Assistant Laryngologist and Otologist
 SAMUEL BOYCE POLE, M.D., Attending Laryngologist and Otologist

Neurology

HARRY A. BISHOP, M.D.....Neurologist

Roentgenology

TRUMAN ABBE, M.D.....Roentgenologist-in-Chief
 WALTER HIBBARD MERRILL, M.D.
 Electro-Therapeutist and Roentgenologist
 JOHN HUNTER SELBY, M.D.....Roentgenologist

Dermatology

CHARLES AUGUSTUS SIMPSON, M.D.....Attending Dermatologist

Pathology

OSCAR BENWOOD HUNTER, M.D.....Pathologist

Laboratory

FRANK ADELBEET HORNADAY, M.D.....Director

Medical Building

HENRY KNOX CRAIG, M.D.....Librarian and Curator of the Museum
 PATRICK PERCY VANE.....Superintendent of the Building
 ANNA ELIZABETH SELLNER.....Secretary to the Dean

HISTORICAL

The *Medical School of the George Washington University*, in the chronological order of establishment, is the seventeenth Medical School in the United States. The first course of lectures began in March, 1825. For many years the school was known as the National Medical College; subsequently as the Department of Medicine of the Columbian University. By virtue of an act of Congress approved January 23, 1904, the Columbian University changed its name to "The George Washington University."

When first established, and for many years thereafter, this school, like most others in this country, gave only a two years' course of five months each. In 1878 the course was lengthened by the establishment of a Spring Session devoted to lectures in certain special subjects. In 1879 the course was lengthened to seven months and attendance upon three annual sessions required, and in 1893 attendance on four annual courses was made obligatory upon all candidates for the degree of Doctor of Medicine. In order to increase the facilities for actual bedside teaching, the University Hospital and the University Dispensary were established in 1898 and made a part of the Medical School. In 1902 the old Medical School building, in which the exercises had been held since 1867, gave place to the present large and commodious structure.

EDUCATIONAL POSITION

The Medical School of the University has been for several years a member of the Association of American Medical Colleges. It is one of Medical Colleges designated as "class A," by the American Medical Association, and it is accredited for all its work by the Combined (Royal) Medical Examining Boards in England.

The degree of M.D. given by this University admits the holder to all governmental examinations, including those for the Medical Corps of the United States Army and Navy and the Public Health Service and, with the required credentials of premedical work and evidence of one year of post-graduate hospital work in those states which require hospital internship, will admit a graduate of our Medical School to all state examinations except that of South Dakota. The requirements of South Dakota will be met for all matriculants after January 1, 1918.

These facts guarantee the character of the work done by the School and insure its students and graduates all the advantages which accrue from such association and recognition.

BUILDINGS AND OTHER FACILITIES

Buildings of the Medical Department

All the buildings adjoin each other and consist of the Medical School Building and the University Hospital and the University Dispensary. They are most advantageously situated in the heart of the city within one block of both systems of car lines. As the Hospital and Dispensary adjoin the School, their clinical facilities are easily accessible to the students, and the pathological material and the material for clinical microscopy and clinical chemistry afforded by the Hospital and Dispensary are directly used in the School laboratories.

Medical School Building.—A modern commodious, five-story structure, with spacious, well-lighted, well-ventilated lecture and class rooms, laboratories, and students' rooms. It has an elevator service, and is equipped throughout with steam heat, gas, electricity, and all modern improvements.

Laboratories.—Six in number (for anatomy, chemistry, physiological and clinical chemistry, histology and embryology, physiology and pharmacology, and bacteriology and pathology) are fully equipped with the most approved appliances, so that students may adequately pursue the laboratory courses and acquire the technical skill necessary in modern clinical and research methods.

University Medical Library.—Open for study and consultation from 9 a.m. to 9 p.m. with a Librarian who is a graduate of Medicine in charge. It contains at present more than 2,000 volumes, and provision is made to add to it as published the important new works on medicine. The most important medical periodicals are regularly received. During the past year four desirable collections have been added to the Library by donation, viz., that of the late Dr. A. F. A. King, for half a century a teacher in this school, presented by Mrs. King; that of the late Surgeon Maxwell, of the United States Navy, presented by his daughter; that of the late Dr. Thomas Miller, presented by his son; and that of the late Dr. Prewitt, presented by his son. The library is an excellent working collection, as it affords opportunity to read up adequately on the subjects presented in the courses.

Pathological Museum.—Contains a great many valuable and interesting specimens. Their number is increased by additions from time to time. These specimens are particularly valuable to the students as illustrating the changes produced by disease.

ADVANTAGES OF LOCATION

Advantages of Washington as a place for pursuing the study of medicine

This city now has nearly half a million inhabitants, providing abundant clinical material to the hospitals, which have an aggregate of about four thousand beds. In these hospitals clinical instruction, in addition to that in the University Hospital, is given by members of the Faculty.

The *great libraries* and *museums* connected with the various Government institutions afford unparalleled facilities for study.

The Library of the Surgeon General's Office of the United States Army is the most complete medical library in the world, and all leading medical periodicals of the world are subscribed for. All the facilities of this great library are open to *medical students*. There is also the Library of Congress, the Public Library, and the many excellent libraries of the various Government offices, all of which are open to students.

The *Army Medical Museum* affords an unrivaled opportunity for studying the conditions met with in military and general surgery. It contains on exhibition a collection of anatomical and pathological specimens unequalled by any other museum. Other Government museums are the Museum of Hygiene, in connection with the Medical Department of the Navy and the National Museum which contains the most complete and best arranged collection of *materia medica* in the world. The drugs are shown in all their processes of manufacture. The Botanic Gardens, the Smithsonian Institution, the Fish Commission, and the Department of Agriculture, all afford opportunities for study both in medicine and its collateral sciences.

On account of the many advantages offered in this city, the *Army and Navy Medical Schools* have been here located. The Alumni of this School are largely represented in all public services, and have been highly successful in passing the rigid examinations given by them. Ten per cent of the total number of the regular medical corps of the United States Army are graduates of this School.

Aside from the special advantages offered for the study of medicine, the cosmopolitan character of the city of Washington, its climate (not excessively cold in winter), its beauty, and its interests, which, as it is the seat of the General Government, are broad and national, make it an ideal place for a medical student to pass his four years of study.

ADMISSION

The requirements for admission to the Medical School for the session 1917-18 are as follows:

Candidates for matriculation must present creditable certificates of good moral character from two physicians in good standing.

The educational requirements for admission are:

A. The minimum requirement for admission is one year of college work, totaling not less than thirty semester hours, including physics, chemistry and biology. It is strongly urged that the year's work also include six semester hours in a modern language other than English, preferably French or German. The college year must be preceded by fifteen units of secondary school work made up as follows:

Seven Required Units.—English (Reading and Practice), 2 units; Algebra to quadratics, 1 unit; Plane Geometry, 1 unit; German or French, or Latin or Greek, 2 units; History, 1 unit.

Eight Elective Units.—To be selected from the following: English, Mathematics, Latin, Greek, German, French, Spanish, Scandinavian, Science with laboratory work, Agriculture, Drawing, Manual Training, Domestic Science, Music, or other secondary school subjects.

B. A Bachelor's degree from an approved college or University, provided the holder of such degree presents satisfactory credentials covering one year's college work in chemistry, physics and biology; and provided, further, that the applicant may be admitted to the Medical School conditioned in one-half the requirement in physics or one-half that in biology.

A unit is the credit value of 36 weeks' work of five recitation periods per week, each period to be not less than 40 minutes. A point is a subject pursued through one-half the above time. Two points may be considered the equivalent of one unit.

An examination is given by the University in the latter part of May and September of each year to students who are deficient in whole or part of the subjects required for entrance to the Premedical Course. Candidates desiring examination must submit an application for the examination and submit certificates of character to the Dean before the first of the month in which they desire to be examined.

Certificates from reputable instructors recognized by the State Board of Medical Examiners duly authorized by law or by the Superintendent of public instruction in States having no examining board may be accepted in lieu of any part of the examination.

As the laws relating to the preliminary educational qualifications required of physicians differ in many of the States of the Union, candidates are advised to make themselves familiar with the provisions of the medical statutes of the States in which they contemplate applying for license to practice. Attention to this precaution may save future embarrassment.

The States of Alabama, Colorado, Indiana, Iowa, Minnesota, New Hampshire, New Jersey, North Dakota, Oklahoma, South Dakota, Virginia and Wisconsin now require applicants for the practice of medicine to have two years of college work in addition to graduation in medicine.

PRELIMINARY (PREMEDICAL) WORK

After January 1, 1918, the minimum requirement for admission to this school will be two years (sixty semester hours) of work in an approved college of arts and sciences, or its actual educational equivalent as demonstrated by proper examination. It is suggested that in addition to the courses outlined in Paragraph A, page 145, this two-year course include a course in English, Organic Chemistry, a second year of Biology and more work in the modern language unless the student already possesses a reading knowledge of it. The remainder of the sixty semester hours may be satisfied by a sufficient amount of work of college grade.

Courses are offered by the University to meet the requirement of two years of college work necessary to enter the freshman class in Medicine, after January 1, 1918.

SPECIAL COURSE FOR ADMISSION TO THE MEDICAL SCHOOL

First Year

	SEMESTER HOURS
Chemistry 1 and 2.....	10
French or German.....	6
Zoology 1.....	6
Electives (preferably English 1 or 2, and History 33).....	8
Total Semester Hours.....	30

Second Year

	SEMESTER HOURS
Physics 3 and 2.....	10
Zoology 2.....	6
Electives (preferably Chemistry 3 and 23, and Philosophy).....	14
Total Semester Hours.....	30

COURSES AND DEGREES OFFERED BY THE UNIVERSITY IN ADDITION TO OR IN COMBINATION WITH THE COURSE FOR THE DEGREE OF DOCTOR OF MEDICINE

The University offers a six-year combination course, by which a student may obtain the degree of Bachelor of Science in Medicine and Doctor of Medicine.

Admission to Columbian College

Applicants for admission to the Freshman Class in Columbian College for the combined courses leading to the degrees of Bachelor of Arts or Bachelor of Science in Medicine and Doctor of Medicine must meet the general admission requirements of fifteen units. A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work. *The fifteen units of the entrance requirements must include English, 3 units; Mathematics, 2½ units, and one of the following languages: Latin, Greek, French, German, or Spanish, 2 units.* The remainder of the requirement is elective and may be satisfied in general by any accredited secondary school subjects.

SIX-YEAR COURSE FOR THE DEGREES OF BACHELOR OF SCIENCE IN MEDICINE AND DOCTOR OF MEDICINE

Regular students in this course will complete in two years the prescribed work in college, at least twelve semester hours of which must be taken in Columbian College, and the four-year course in the Medical

School. On the completion of this six-year course, the student will receive at the same time the degrees of Bachelor of Science in Medicine and Doctor of Medicine. The curriculum for the combined six-year course is as follows:

a. Columbian College

Freshman Year

	SEMESTER HOURS
Chemistry 1 and 2.....	10
English 1 or 2.....	6
French or German.....	6
History or Economics.....	6
Zoology 1.....	6
	<hr/> 34

Sophomore Year

	SEMESTER HOURS
Chemistry 3 and 23.....	8
French or German.....	6
Philosophy.....	6
Physics 3 and 2.....	10
Zoology 2.....	6
	<hr/> 36

b. Medical School

The four-year course for the degree of Doctor of Medicine.

SEVEN-YEAR COURSE FOR THE DEGREES OF BACHELOR OF ARTS AND DOCTOR OF MEDICINE

Regular students in this course will complete at least 90 semester hours as prescribed in Columbian College and the first year course in the Medical School. On completion of the prescribed 90 semester hours of college work and the first year of the regular course in Medicine, the student will receive the degree of Bachelor of Arts.

The hours of prescribed work, at least 12 semester hours of which must be taken in Columbian College, are as follows:

Columbian College:

SUBJECT	SEMESTER HOURS
Zoology, 1, 2.....	12
Chemistry 1, 2, 3, 23.....	18
English.....	6
French and German.....	18
History.....	6
Mathematics.....	6
Physics 3 and 2.....	10
Philosophy.....	6
Electives (including not to exceed 30 semester hours in Medicine).....	38

ADMISSION OF STUDENTS FROM OTHER SCHOOLS

Students who have attended one or more terms at any other medical college in good standing, and who have the necessary preliminary educational requirements, may be admitted to advanced standing upon passing the examination required of students for the stage at which they propose to enter, or upon presenting certificates of examination covering courses equal to those in this School.

Students who have been in attendance upon an Arts course in other accredited colleges or universities may be admitted to advanced standing in any of the premedical courses offered by the University upon examination or upon presentation of properly certified evidence of satisfactory completion of work for which credit is asked.

Students, approved by the Dean, not candidates for the degree of Doctor of Medicine, may be admitted as special students to any of the courses, provided they have the educational attainments which will enable them to pursue properly the studies they elect.

ACADEMIC YEAR

The *Academic Year* begins on the last Wednesday in September and ends on the Wednesday following the Wednesday nearest the first day of June. It is divided into two half-years of four months each.

The term of study for the degree of Doctor of Medicine consists of four years of thirty-two weeks each, exclusive of vacations and holidays. The next session, the ninety-fifth, begins September 26, 1917, and ends June 5, 1918.

Students must register promptly at the beginning of the session, in order that their time of study shall count as a full year.

SYSTEM OF INSTRUCTION

Instruction is carried on by laboratory work, lectures, recitations, bedside instruction, and hospital and dispensary clinics. Particular stress is laid upon laboratory work and clinical teaching. The clinical material of the University Hospital and Dispensary is utilized to the fullest extent, as the Hospital, the Dispensary, and the Medical School are under the same control. Additional clinics are given in other hospitals in the city to which members of the faculty are attached.

While the greatest stress is laid upon laboratory work and clinical teaching, it is recognized that the facts so obtained must be correlated and shown in their due relation to each other and to the science of medicine. To this end didactic lectures are maintained in certain branches, as they have been found necessary to give a systematic and comprehensive idea of the larger subjects in medicine. These lectures are followed by systematic and thorough quizzes, so that it may be certain that the students properly and thoroughly grasp the ideas presented by the lecturers.

The recitation and quiz work is made so complete that students do not need to employ private quizmasters.

The object sought throughout the courses is to ground thoroughly the students in the knowledge which is necessary to a practitioner of medicine. No particular attempt is made to graduate specialists in any subject. It is believed that the four years allowed are no more than sufficient time for the adequate preparation of the general practitioner.

The policy adopted by the School is to give a comprehensive, well graded and well-proportioned course—one that will adequately prepare the graduate to practice general medicine and meet the requirements of State Boards.

ORDER OF INSTRUCTION

The subjects studied in each year are shown in the following table. Major subjects are in italics:

FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
<i>Anatomy.</i>	<i>Anatomy.</i>	<i>Medicine.</i>	<i>Medicine.</i>
<i>Histology.</i>	<i>Physiological</i>	<i>Surgery.</i>	<i>Surgery.</i>
<i>Embryology.</i>	<i>Chemistry.</i>	Fractures and	Orthopædics.
<i>Physiology.</i>	<i>Pathology.</i>	Dislocations.	Genito-Urinary
<i>Chemistry.</i>	<i>Bacteriology.</i>	Clinical	Diseases.
	Materia Medica.	Microscopy.	Operative
	<i>Pharmacology.</i>	<i>Obstetrics.</i>	Surgery.
	Minor Surgery.	<i>Therapeutics.</i>	Military
	Physical	Roentgenology.	Surgery and
	Diagnosis.	Radiotherapy	Sanitation.
	Pathological	<i>Gynecology.</i>	<i>Obstetrics.</i>
	Physiology.	Medical	<i>Gynecology.</i>
	Hygiene.	Jurisprudence.	Laryngology
	Psychology.	Clinical	and Otology.
		Chemistry.	Ophthalmology
		Dietetics.	Dermatology.
		Tropical	Psychiatry.
		Medicine.	Pediatrics.
		<i>Clinics.</i>	Neurology.
			<i>Clinics.</i>

The *clinics* above listed comprise the medical, surgical, and other clinics given in the third and fourth years, and are as hereafter noted under the announcements of the different clinical subjects.

OUTLINE OF CURRICULUM

Hours of Required Work in Each Subject

(On the basis of 32 actual weeks in each year)

SUBJECTS	YEARS	HOURS		
		Totals*†	Didactic, Lab. and Clinical	Didactic not to exceed
Anatomy.....	I	440		90
Anatomy.....	II	210		30
		— 650		— 120
Histology and Embryology.....	I	267		60
		— 267		— 60
Chemistry.....	I	308		90
Chemistry.....	II	100		30
		— 408		— 120
Physiology.....	I	184		72
Physiology.....	II	68		32
		— 252		— 104
Psychology.....	II	32		32
		— 32		— 32
Bacteriology.....	II	126		30
Pathology.....	II	282		60
		— 408		— 90
Hygiene.....	II	32		32
		— 32		— 32
Dietetics.....	III	24		24
		— 24		— 24
Pharmacology.....	II	140		28
Materia medica.....	II	40		40
Therapeutics.....	III	64		64
Radiotherapy.....	III	8		8
		— 252		— 140
Gynecology.....	III and IV	144		48
		— 144		— 48
Obstetrics.....	III and IV	192		64
		— 192		— 64

* The number of hours represents the amount of time each student devotes to the course. In addition to the hours scheduled in the third and fourth years, each student is required to do satisfactorily considerable practical work: he is assigned to cases in the University and Garfield Hospitals, is required to assist at operations, to attend cases of labor, administer anaesthetics, attend autopsies, and to take the history of cases. Fully 120 hours annually are required to do this unscheduled work.

† Subject to variation.

SUBJECTS	YEARS	HOURS (continued)	
		Totals Didac- tic, Lab. and Clinical	Didactic not to exceed
Medicine.....	II, III, IV		
General Medicine.....		606	200
Clinical Microscopy.....		48	16
Physical Diagnosis.....		80	40
Tropical Diseases.....		12	12
Dermatology.....		48	12
Pediatrics.....		120	18
Neurology.....		64	24
Psychiatry.....		42	12
Medical Jurisprudence.....		30	30
Clinical Chemistry.....		48	12
		— 1098	— 376
Surgery.....	II, III, IV		
General Surgery.....		540	144
Minor Surgery.....		40	20
Radiography.....		16	0
Fractures, etc.....		16	16
Military Surgery and Sanitation		16	16
Ophthalmology.....		64	16
Otology and Laryngology.....		60	24
Genito-Urinary Surgery.....		48	16
Orthopedics.....		48	16
		— 848	— 268
Grand totals.....		4607	1478

ANATOMY

CARL LAWRENCE DAVIS, M.D.....	Professor
OSCAR BENWOOD HUNTER, A.B., M.D.....	Professor of Histology and Embryology and Associate Professor of Anatomy
WILLIAM R. BUCHANAN, M.D.....	Instructor

The instruction in the various anatomical sciences—gross human anatomy, neurology, embryology and histology—is carried on by the Division of Anatomy of which the Professor of Anatomy is the head.

This insures complete correlation of the various anatomical branches and adequate instruction in each.

During the first year the course in Gross Anatomy is given mainly by practical laboratory work.

The greater portion of the course is given during the first year thus enabling the student to apply his early knowledge of Anatomy to his other branches of study. Complete disarticulated skeletons are loaned to

the students, so that they may familiarize themselves with the osteological features of the various parts during their dissection. Each student is required to dissect satisfactorily the lateral half of a cadaver. The dissecting room work is supplemented by demonstration, recitation and lectures, illustrated by lantern slides, models, diagrams and special dissections. The systematic study of the gross and minute anatomy of the central nervous system and organs of special sense is pursued by means of lectures, recitations, and laboratory work.

In the second year a course in applied anatomy is given, in which recitations and laboratory demonstrations, frozen sections and special dissections are used to familiarize the student thoroughly with the subject.

Throughout the course every opportunity is taken to emphasize the application of anatomy to the practice of medicine in all its departments.

SUBJECT	YEARS	HOURS	
		Totals Didactic and Lab.	Didactic not to exceed
Anatomy.....	I	440	90
Anatomy.....	II	210	30
		— 650	— 120

In Histology instruction is given in the care and use of the microscope and in the preparation of tissues (fixing, blocking, cutting, staining, etc.) for microscopical examination, and a systematic study is made of the minute structure of the tissues and organs of the body, the laboratory work being supplemented by lectures, recitations and stereopticon demonstrations.

The course in Embryology is devoted to the study of marine material, showing maturation, impregnation, segmentation, etc., and to series of chick and mammalian embryos, special stress being laid upon the development of the foetal membranes and organs. Lectures, recitations and demonstrations with laboratory models are also given.

SUBJECT	YEAR	HOURS	
		Totals Didactic and Lab.	Didactic not to exceed
Histology and Embryology.....	I	267	60
		— 267	— 60

PHYSIOLOGY

SHEPHERD IVORY FRANZ, Ph.D., L.L.D., M.D.....	Professor
*JOSEPH DUERSON STOUT, Ph.D., M.D.....	Associate Professor
JAMES HAROLD COLLINS, A.M., M.D.....	Associate Professor
HENRY RANDALL ELLIOTT, M.D.....	Associate

* On leave of absence.

The course in physiology consists of lectures, recitations, demonstrations, laboratory exercises and conferences during the first and second years. It begins in the second-half of the first year, so that the student is early in his course in medicine introduced to the functional viewpoint. The functions of the nervous system and special senses, of the blood, of the heart and circulatory system, of glands, of the digestive system, of the respiratory mechanisms, and of reproduction are considered by means of lectures and recitations, and, as far as practicable, experimentally. In the laboratory each student performs the main experiments illustrating the facts regarding bodily function, and demonstration experiments are given of those functions which are too complex for the student to perform himself. In this laboratory work each student is required to keep records of his experiments, and each experiment is supervised and the record criticized and checked by one of the instructors before the student leaves the laboratory for the day. The class is divided into sections for oral recitations, which are supplemented by written recitations.

After the completion of the work in normal physiology in the second year, a series of laboratory exercises on the physiological action of drugs is given (see the announcement under Department of Pharmacology and Therapeutics), and in conjunction with that laboratory work lectures are given and recitations are held in which the functional disturbances in disease are considered. In this course special attention is given to the abnormalities of action of the heart and circulatory system, to the mechanical disturbances in respiration, and to the disturbances of the nervous system and the special senses. By this course it is intended to bring the course in normal physiology into closer relations with the succeeding courses in Pathology, Therapeutics and General Medicine.

The course in psychology aims to give, by lectures and conferences, the main facts regarding mental processes, and to develop the psychological aspect of medicine, upon which so much emphasis has recently been laid. The course is primarily medical in its treatment and thus deals with pathological as well as normal mental phenomena, but without encroaching upon the courses in Psychiatry and Neurology.

SUBJECT	YEARS	HOURS	
		Totals Didactic and Lab.	Didactic not to exceed
Physiology.....	I	184	72
Physiology.....	II	68	32
		— 252	— 104
Psychology.....		32	32

CHEMISTRY

CHARLES EDWARD MUNROE, Ph.D., LL.D.....Professor
 FRANK ADELBERT HORNADAY, S.B., M.D.

Professor of Physiological Chemistry

EVERETT MONROE ELLISON, A.M., M.D.....Instructor

Inorganic Chemistry.—A series of recitations, in which the subject is reviewed and its relation to medicine emphasized.

Qualitative Analysis.—A laboratory course on methods of separating and identifying the commoner metallic elements and acid radicals and the application of such methods in medicine.

Organic Chemistry.—A series of lectures, laboratory work, and recitations on the acyclic and cyclic hydrocarbons and their derivatives, with special reference to physiology and medicine.

Physiological Chemistry.—A series of lectures, recitations and laboratory work on food stuffs, including carbohydrates, proteins and fats, their properties, reactions, digestion, absorption and assimilation. Careful consideration is given to enzymes and to the various secretions of the body.

Clinical Chemistry.—A thorough course is given in which material from the University Hospital and Dispensary is utilized to show the practical application of this subject in medicine.

SUBJECT	YEARS	HOURS	
		Totals Didactic and Lab.	Didactic not to exceed
Chemistry.....			
Inorganic Review	I	258	90
Qualitative Analysis			
Organic			
Physiological.....	I, II	150	30
		— 408	— 120
*Clinical Chemistry.....	III	48	12

MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS

BUCKNER MAGILL RANDOLPH, M.D.....Professor

†JOSEPH DUERSON STOUT, Ph.D., M.D.....Professor of Pharmacology

JAMES HAROLD COLLINS, A.M., M.D.....Associate Professor

WALTER HIBBARD MERRILL, M.D.....Instructor

EVERETT MONROE ELLISON, A.M., M.D.....Instructor

Second Year.—(1) Lectures upon Materia Medica, including a demonstration of drugs and their preparations. (2) Recitations upon the preparations, their doses, and the various antidotes for poisons. (3) Prac-

* See also announcement under Medicine.

† On leave of absence.

tical exercises in prescription writing. (4) Demonstrations of drugs. (5) Pharmacology. The course in Pharmacology is given in the second year, having two three-hour laboratory periods and a one-hour recitation period each week. During the laboratory exercises the students, divided into small groups under instructors, investigate the action of the most common drugs, including alcohol, ether, chloroform, digitalis, aconite, strychnine, etc., by actual experiment. They are taught what effects to expect from the use of a given drug and to observe the results as they occur. The number of drugs covered in this work is about seventy, including both inorganic and organic series.

Third Year.—(1) Systematic lectures and recitations on the physiological action of drugs and other remedial agents, as demonstrated by laboratory experiment and clinical application; their therapeutic use in disease; their modes of administration; and a review of their toxicology. (2) A review of the principles of prescription writing, with practical exercises by students in writing prescriptions in the metric and English systems. (3) Lectures in applied therapeutics, devoted to the study of the application of remedial measures to morbid physiological and pathological states, as they occur clinically. (4) Lectures and section demonstrations in electro-therapeutics and Roentgen therapy.

SUBJECT	YEARS	HOURS	
		Totals Didactic and Lab.	Didactic not to exceed
Pharmacology.....	II	140	28
Materia Medica and Toxicology...	II	40	40
Therapeutics.....	III	64	64
Radiotherapy.....	III	8	8
		— 252	— 140

DIETETICS

JOHN BENJAMIN NICHOLS, M.D.....Associate

A course of lectures on the physiology of nutrition and principles of feeding in health and disease.

SUBJECT	YEARS	HOURS	
		Totals Didactic and Lab.	Didactic
Dietetics.....	III	24	24

PATHOLOGY AND BACTERIOLOGY

MARCUS WARD LYON, JR., M.D., Ph.D.....Professor
 OSCAR BENWOOD HUNTER, A.B., M.D.....Professor of Histology
 FRANK ADELBERT HORNADAY, S.B., M.D.,
 Professor of Physiological Chemistry

WILLIAM BROWNE CARR, M.D.....Instructor in Morbid Anatomy
 JAMES ROBERT SCOTT, Ph.D., M.D.Instructor

BACTERIOLOGY

The didactic portion of the course in Bacteriology consists of a series of about thirty formal lectures in which the entire field of bacteriology including immunology in its application to human medicine and welfare is considered. The first few lectures are necessarily limited to the consideration of the general principles of the science after which the pathogenic microorganisms are discussed in a systematic sequence, with the theories of immunity treated of in appropriate places.

In the laboratory portion of the course which occupies about three-quarters of the total time devoted to the subject the students first prepare all the standard culture media and learn the general principles of bacteriologic technic from the study of about a dozen typical, widely different non-pathogenic organisms. Subsequently twenty-five to thirty pathogenic bacteria are carefully examined by microscopic, cultural and serologic methods. The students prepare as far as practicable such special media as are needed for this latter work. In addition to this systematic examination of characteristic organisms the students test the efficiency of the commonly employed germicides, prepare a vaccine, and in groups prepare agglutinating, hemolytic and other immune serums and use these as commonly employed in diagnosis. In connection with the preparation of culture media the principles of sterilization are covered. In the microscopic examination of bacteria the students are trained in the use of the high powers of the microscope, in the use of dark ground illumination, and are taught to make microscopic measurements.

During the course where occasion arises in connection with special cases of interest in the University Hospital or elsewhere unusual infections or rarely occurring processes of diagnosis, etc., are demonstrated. The routine bacteriologic and serologic work of the Hospital is done in the same laboratory where the students are working so that they have ample opportunity to observe the practical applications of bacteriology.

PATHOLOGY

In Pathology, the division of the course into laboratory and lecture teaching is followed, the amount of time devoted to each being about twice the corresponding time in Bacteriology. General pathology covering inflammation, repair, degenerations, the effects of plant (including bacteria) and animal parasites on the body, the effects of chemical and physical agents, the formation of new growths, etc., is first considered. This is followed by the special pathology of the organs and of the specific diseases.

The laboratory work consists primarily in the histologic study of diseased tissues and neoplasms. About two hundred sections are stained

and mounted by each student and become his individual property. These sections are carefully examined and studied by the student who makes colored pencil drawings of the characteristic lesions shown by them.

The microscopic study is supplemented by that of post-mortem material and that from the operating room and by specimens in the museum thus affording a knowledge of gross morbid anatomy.

Varying in number with the extent of material afforded, students have the opportunity of training in the details of post-mortem technic from the autopsy through the preparation, sectioning, and staining of the tissues to be studied, to their final diagnosis and report.

CLINICAL MICROSCOPY

In the course in Clinical Microscopy the student is trained in the counting of the red and the white blood cells, in the various methods of hemoglobin estimation, in differential leucocyte counting, in the study of malarial parasites, and such other parasites of the blood as opportunity affords, in the estimation of the coagulation time of the blood, etc., in the microscopic study of the sediments in normal and pathologic urines, in the microscopic examination of stomach contents, of the feces, including a detailed study of animal parasites and their eggs, in the microscopic examination of sputum, of spinal fluids, pleural exudates, etc., as material and opportunities afford. The significance and value of these findings as applied to pathology and diagnosis are considered.

SUBJECT	YEARS	HOURS	
		Totals Didactic and Lab.	Didactic not to exceed
Bacteriology.....	II	126	30
Pathology.....	II	282	60
		— 408	— 90
*Clinical Microscopy.....		48	16

MEDICINE

STERLING RUFFIN, M.D.....	Professor
GEORGE NICHOLAS ACKER, A.M., M.D., Professor of Pediatrics and Clinical Professor of Medicine	
THOMAS ASH CLAYTOR, M.D.....	Clinical Professor of Medicine
RANDOLPH BRYAN CARMICHAEL, M.D.....	Professor of Dermatology
WILLIAM CREIGHTON WOODWARD, LL.M., M.D., Professor of Medical Jurisprudence	
WILLIAM ALANSON WHITE, M.D., Professor of Psychiatry and Clinical Professor of Neurology	

*See also announcement under Medicine.

JAMES DUDLEY MORGAN, A.B., M.D.,

Clinical and Associate Professor of Medicine

LOUIS MACKALL, M.D.....Clinical Professor of Medicine

EDWARD RHODES STITT, A.B., M.D.....Professor of Tropical Medicine

EDGAR SNOWDEN, M.D.....Professor of Hygiene

FRANK LEECH, M.D.....Clinical Professor of Medicine

JOHN BENJAMIN NICHOLS, M.D.....Associate in Medicine and Dietetics

EDGAR PASQUAL COPELAND, M.D.....Associate in Pediatrics

HARRY HAMPTON DONNALLY, A.M., M.D., Clinical Associate in Pediatrics

WILLIAM CABELL MOORE, M.D.....Associate in Medicine

CHARLES AUGUSTUS SIMPSON, M.D.....Associate in Dermatology

COURSEN BAXTER CONKLIN, S.B., M.D.,

Associate in Medicine and Anaesthesia

CHARLES WHEATLEY, M.D.....Clinical Associate in Pediatrics

CHARLES WILBUR HYDE, M.D.,

Associate in Medicine and Anaesthesia

WILLIAM JOHNSTON MALLORY, M.D.....Associate in Medicine

ELIJAH WHITE TITUS, Phar.D., M.D.....Instructor in Pediatrics

JANVIER WHITTON LINDSAY, A.B., M.D.,

Instructor in Physical Diagnosis

ROBERT SAMUEL TRIMBLE, M.D.....Clinical Instructor in Medicine

HARRY A. BISHOP, M.D.....Clinical Instructor in Neurology

WILLIAM HOUSTON LITTLEPAGE, M.D., Clinical Instructor in Medicine

JAMES CHARLES HASSALL, M.D.,

Instructor in Psychiatry and Clinical Neurology

WILLIAM DAVID TEWKSBURY, M.D.....Clinical Instructor in Medicine

ROSS MCCLURE CHAPMAN, M.D.,

Instructor in Psychology and Neurology

CARROL E. BINGMAN, M.D.....Clinical Instructor in Medicine

THOMAS LINVILLE, M.D.....Clinical Instructor in Medicine

THOMAS MILLER, Jr., M.D.....Clinical Instructor in Medicine

Instruction in Medicine is so given as to conform to the most modern requirements. The work begins in the second year with a complete course in history-taking and normal physical diagnosis, and is continued through the third and fourth years. During the latter two years the course consists of lectures, recitations, a study of case histories, clinical conferences, and practical work in the clinical laboratory and at the bedside. The work is made as practical as possible.

The third-year class is divided into small sections, which are required to attend the daily dispensary service in the University Hospital, where they are drilled especially in history-taking and in the technique of practical physical diagnosis.

The fourth-year class is similarly divided into small sections, and these are required to attend the daily ward clinics in the University Hospital and ward clinics in the Garfield Memorial Hospital, Children's Hospital, and the Tuberculosis Hospital of the District of Columbia.

The system of ward clinics to small groups of students affords a most effective method of studying disease and gives to every student an opportunity of following a large assortment of diseases from their commencement to the termination of illness; in no other way is it possible to get a more practical knowledge of the methods of studying disease or a more intimate knowledge of disease itself.

Every patient in the medical wards of the University Hospital is assigned to one, or at most two, senior students, who are required (under proper supervision) to take the history, to make and record a complete physical examination, to determine after due study the nature of the illness (diagnosis), to outline a plan of treatment, and to make daily notes of the progress of the case.

A weekly amphitheater clinic is given to third-year students in a body and a similar clinic to the fourth-year class. A series of special neurological clinics is provided for the senior class at the Saint Elizabeth's Hospital, where there is a great wealth of material (see announcement of Psychiatry and Clinical Neurology).

SUBJECT	YEARS	HOURS	
		Total Didactic Lab. and Clinical	Didactic not to exceed
Medicine.....	II, III, IV		
General Medicine.....		606	200
*Clinical Microscopy.....		48	16
†Clinical Chemistry.....		48	12
Physical Diagnosis.....		80	40
Tropical Diseases.....		12	12
Dermatology.....		48	12
Pediatrics.....		120	18
Neurology.....		64	24
Psychiatry.....		42	12
Medical Jurisprudence.....		30	30
		— 1098	— 376

TROPICAL MEDICINE

EDWARD RHODES STITT, A.B., M.D., Medical Director U.S.N., Professor

The course in tropical diseases is similar to that given in the Army and Navy Medical Schools, and consists of didactic lectures, quizzes, and laboratory instruction, with particular reference to the parasitic, protozoal diseases common in the tropics and in the southern part of the United States.

* See also announcement under Bacteriology and Pathology.

† See also announcement under Chemistry.

PSYCHIATRY AND CLINICAL NEUROLOGY

WILLIAM ALANSON WHITE, M.D., Superintendent of Saint Elizabeth's Hospital.....	Professor
HARRY A. BISHOP, M.D.....	Clinical Instructor
JAMES CHARLES HASSALL, M.D.....	Instructor
ROSS McCLURE CHAPMAN, M.D.....	Instructor

A series of lectures and clinics is given upon the subject of insanity in its various forms.

These clinics are given at Saint Elizabeth's Hospital which, with its more than three thousand beds, affords one of the largest clinics in this country.

Students are taught in the same classes with students of the Army and Navy Medical Schools.

PEDIATRICS

GEORGE NICHOLAS ACKER, A.M., M.D.....	Professor
EDGAR PASQUAL COPELAND, M.D.....	Associate
HARRY HAMPTON DONNALLY, M.D.....	Clinical Associate
CHARLES WHEATLEY, M.D.....	Clinical Associate
ELIJAH WHITE TITUS, Phar.D., M.D.....	Instructor in Pediatrics

Didactic and clinical lectures, bedside and dispensary clinics are given upon diseases of infants and children and the importance of the proper management of these diseases by diet and hygiene.

The children's clinic, at the Children's Hospital, affords ample material for practical teaching in this branch.

PHYSICAL DIAGNOSIS

WILLIAM CABELL MOORE, M.D.....	Associate
JANVIER WHITTON LINDSAY, A.B., M.D.....	Instructor

Instruction is given in the principles and methods of physical examination by means of recitations, section work on normal subjects, and with clinical cases which typically represent diseased conditions.

DERMATOLOGY

RANDOLPH BRYAN CARMICHAEL, M.D.....	Professor
CHARLES AUGUSTUS SIMPSON, M.D.....	Associate

The lectures in this course will be principally clinical, supplemented by didactic lectures, illustrated by diagrams, models, and photographic illustrations of disease from life.

MEDICAL JURISPRUDENCE

WILLIAM CREIGHTON WOODWARD, LL.M., M.D.....	Professor
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This course is designed to familiarize students with the rights and obligations of physicians, both legal and ethical, and to qualify them to apply the facts of medical science to the solution of problems in law.

SURGERY

- WILLIAM CLINE BORDEN, M.D.....Professor
 DANIEL KERFOOT SHUTE, M.D....Clinical Professor of Ophthalmology
 CHARLES WILLIAMSON RICHARDSON, M.D.,
 Professor of Laryngology and Otology
 AURELIUS RIVES SHANDS, M.D.....Professor of Orthopedic Surgery
 FRANCIS RANDALL HAGNER, M.D.,
 Professor of Genito-Urinary Diseases and Venereal Diseases
 WILLIAM KENNEDY BUTLER, M.D.....Professor of Ophthalmology
 LUTHER HALSEY REICHELDERFER, M.D.....Clinical Professor
 LOUIS ANATOLE LA GARDE, M.D.
 Professor of Military Surgery and Sanitation
 OSCAR ADDISON MACK MCKIMMIE, M.D.,
 Clinical Professor of Laryngology and Otology
 THOMAS CHARLES MARTIN, M.D.....Professor of Proctology
 HARRY HYLAND KERR, M.D.....Clinical Professor
 WILLIAM PINKNEY REEVES, M.D.....Clinical Professor
 CHARLES STANLEY WHITE, M.D.....Associate Professor
 TRUMAN ABBE, M.D.....Professor
 DANIEL WEBSTER PRENTISS, S.B., M.D.....Clinical Associate
 COURSEN BAXTER CONKLIN, S.B., M.D....Associate in Anaesthesia
 JOSEPH DECATUR ROGERS, M.D.....Clinical Associate
 DANIEL LERAY BORDEN, M.D.....Associate
 CHARLES WILBUR HYDE, M.D.....Associate in Anaesthesia
 EDWARD GRANT SEIBERT, M.D..Clinical Instructor in Ophthalmology
 JOHN POTTS FILLEBROWN, M.D.....Clinical Instructor
 EDMUND THOMAS MURDAUGH FRANKLIN, M.D....Clinical Instructor
 ADAM KEMBLE, M.D....Clinical Instructor in Genito-Urinary Surgery
 HOMER GIFFORD FULLER, M.D.,
 Clinical Instructor in Genito-Urinary Surgery
 CLINE N. CHIPMAN, M.D.....Instructor in Anaesthesia
 ALBERT PERKINS TIBBETS, M.D.,
 Clinical Instructor in Laryngology and Otology
 WILLIAM HENRY HUNTINGTON, M.D.,
 Clinical Instructor in Laryngology and Otology
 HARRY SAMUEL LEWIS, M.D.....Clinical Instructor
 OLIVER CLEMENCE COX, M.D.....Instructor in Minor Surgery
 WILLIAM BERRY MARBURY, M.D.....Instructor
 CUSTIS LEE HALL, M.D....Clinical Instructor in Orthopedic Surgery
 SAMUEL BOYCE POLE, M.D.,
 Clinical Instructor in Laryngology and Otology
 FREDERICK WILLIAM WARDEN, R.A., M.R.C.S., L.R.C.P.,
 Clinical Instructor

The principles of surgery are presented in a systematic course of lectures, so that the student may obtain a comprehensive and adequate concept of the science and art of surgery. These lectures are followed by recitations, so that the subject-matter may be thoroughly impressed upon the students. The special divisions of surgery are taught by associates and instructors who have made specialties of these branches. The clinical material in the University Hospital and Dispensary, being under the control of the Faculty, is directly used throughout the course to illustrate the subjects taught and to familiarize the students with actual clinical conditions.

Surgical technique is taught by instruction in the preparation of materials used in antiseptic and aseptic surgery, the preparation of the patient, and the sterilization of instruments. Practical instruction is given in the Hospital and Dispensary in the application of splints, bandages, and dressings used in the various surgical diseases and injuries. Thorough instruction and practical demonstrations are given in the administration of anaesthetics.

Clinical teaching is carried on in the University Hospital and Dispensary, and in other hospitals of the city to which members of the Faculty are attached. Amphitheater clinics are given, in which the general practice of surgical diagnosis and operative technique and therapeutic procedure are shown.

Ward clinics and bedside instruction are made a prominent part of the course. The classes are divided into sections, which are regularly assigned to clinical work in the University Hospital and Dispensary, and in other hospitals and dispensaries. Senior students are assigned in rotation to individual cases in the wards of the University Hospital.

Practical work is required of each student in the preparation of dressings and sterilization of instruments. Each student is required to give, under instruction, at least six anaesthesias and to assist in at least six operations.

Thorough courses are given in operative surgery and proctology.

SUBJECT	YEARS	HOURS	
		Total Didactic and Clinical	Didactic not to exceed
Surgery.....	II, III, IV		
General Surgery.....		540	144
Minor Surgery.....		40	20
Radiography.....		16	0
Fractures, etc.....		16	16
Military Surgery and Sanitation		16	16
Ophthalmology.....		64	16
Laryngology and Otology.....		60	24
Genito-Urinary Surgery.....		48	16
Orthopedics.....		48	16
		— 848	— 268

ORTHOPEDICS

AURELIUS RIVES SHANDS, M.D.....	Professor
THOMAS MADDEN FOLEY, M.D.....	Instructor in Orthopedic Surgery
CUSTIS LEE HALL, M.D.....	Clinical Instructor

A course of lectures and recitations on the pathology, etiology, course, termination, and treatment of chronic joint diseases, with clinical instruction in the application of special apparatus and of plaster of Paris to the correction of deformities.

GENITO-URINARY DISEASES

FRANCIS RANDALL HAGNER, M.D.....	Professor
HOMER GIFFORD FULLER, M.D.....	Clinical Instructor
ADAM KEMBLE, M.D.....	Clinical Instructor
WILLIAM G. YOUNG, M.D.....	Clinical Instructor

A thorough course of instruction in genito-urinary diseases is given by lectures, recitations, section clinics, and bedside teaching.

MILITARY SURGERY AND SANITATION

LOUIS ANATOLE LA GARDE, M.D.....	Professor
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The treatment of gunshot wounds with special reference to civil practice is given in a course of lectures and demonstrations, fully illustrated by lantern slides, X-ray photographs, and actual specimens from a collection made after years of study and experimentation.

The use of the new armaments in recent wars and the characteristic features of the wounds caused by them, as well as the treatment of gunshot wounds in peace and war are dealt with in about eight lectures.

There will be eight additional lectures on Military Surgery and Military Hygiene.

OPHTHALMOLOGY

WILLIAM KENNEDY BUTLER, A.M., M.D.....	Professor
DANIEL KERFOOT SHUTE, A.B., M.D.....	Clinical Professor
EDWARD GRANT SEIBERT, M.D.....	Clinical Instructor

The course of lectures on this subject is to direct attention to the elementary principles of the subject. It is not intended to qualify the student as a specialist, but to give him a knowledge of what every general practitioner ought to know. The course is supplemented by clinical instruction.

LARYNGOLOGY AND OTOTOLOGY

CHARLES WILLIAMSON RICHARDSON, M.D.....	Professor
OSCAR ADDISON MACK MCKIMMIE, M.D.....	Clinical Professor
EDWARD GRANT SEIBERT, M.D.....	Instructor

ALBERT PERKINS TIBBETS, A.B., M.D.....	Clinical Instructor
WILLIAM HENRY HUNTINGTON, M.D.....	Clinical Instructor
SAMUEL HARRISON GREENE, M.D.....	Clinical Instructor
SAMUEL BOYCE POLE, M.D.....	Clinical Instructor

The course comprises lectures and clinical instruction on diseases of the nasal passages, pharynx, larynx, and the ear. Practical demonstrations are given in the use of the laryngoscope and other instruments required in these special branches.

OBSTETRICS

HURON WILLIS LAWSON, S.M., M.D.....	Professor
WILLIAM SINCLAIR BOWEN, M.D.....	Clinical Professor
EDGAR SNOWDEN, M.D.....	Clinical Associate
JOSEPH DECATUR ROGERS, M.D.....	Clinical Associate
ROBERT Y. SULLIVAN, M.D.....	Clinical Associate
ALBERT ELWOOD PAGAN, M.D.....	Associate
SACKS BRICKER, M.D.....	Clinical Instructor
HOWARD FRANCIS KANE, A.B., M.D.....	Instructor

The course in obstetrics comprises lectures, recitations, laboratory demonstrations and clinical instruction and extends over the third and fourth years. The lectures serve to outline the subject matter and the recitations insure careful preparation on the part of the student. Special laboratory studies dealing with anatomy, embryology and pathology in relation to obstetrics are conducted in the different laboratories concerned. Models, manikins and cadavers are utilized in teaching the mechanism of labor and obstetrical operations. Clinical instruction is given to the classes in small sections at different hospitals and in the out-patient obstetrical service. Beginning about the middle of the third year the student is given practical instruction in making antepartum examinations and he also observes the management of labor cases. During the fourth year he conducts, under the supervision of a paid instructor, from six to ten labor cases in the large and well-organized out-patient maternity service and submits written reports upon the cases attended.

SUBJECT	YEARS	HOURS	
		Totals Didactic and Clinical about	Didactic not to exceed
Obstetrics.....	III and IV	192*	64

GYNECOLOGY

JOHN WESLEY BOVÉE, M.D.....	Professor
ALBERT LIVINGSTON STAVELY, M.D.....	Clinical Professor

* The total number of clinic hours cannot be given, as each student is required to attend ten cases, exclusive of the demonstration work and Ward and Dispensary Clinics above enumerated.

GIDEON BROWN MILLER, M.D.....	Clinical Professor
J. LEWIS RIGGLES, M.D.....	Associate
DANIEL LERAY BORDEN.....	Associate
ALBERT ELWOOD PAGAN, M.D.....	Associate
VIRGIL B. JACKSON, M.D.....	Clinical Instructor

Gynecology as taught in the third year comprises a course of lectures, text-book recitations and clinical instruction. In the fourth year individual students are assigned to cases in the wards of the University Hospital, and the class is taken in sections of one to two students each into the Gynecological Dispensaries for clinical instruction in examinations, diagnosis, and treatment. In larger sections the class attends amphitheater and ward clinics given by the Professor of Gynecology and his assistants.

SUBJECT	YEARS	HOURS	
		Total Didactic and Clinical	Didactic not to exceed
Gynecology.....	III and IV	144	48

HYGIENE

EDGAR SNOWDEN, M.D.....	Professor
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The course in Hygiene is given principally by recitation from a prescribed text-book. Consideration is given to domestic and municipal sanitation and to the principles underlying legislative control of public health.

SUBJECT	YEAR	HOURS	
		Total Didactic and Clinical	Didactic not to exceed
Hygiene.....	II	32	32

CLINICAL FACILITIES

The following hospitals are open to the students of this school for clinical study, and are extensively used for that purpose:

University Hospital and the University Dispensary

H Street, between Thirteenth and Fourteenth Streets N. W. and adjacent to the Medical Building.—The Hospital and Dispensary are part of the educational equipment of the University. They are integral parts of the Medical School, are entirely controlled by the Faculty of Medicine, and are used primarily in instructing the students in clinical work. The Dispensary has a large out-patient service in all departments, to which several thousand visits are made annually.

The staff is composed of members of the Faculty of Medicine.

Garfield Memorial Hospital

Florida Avenue and Tenth Street N. W.—This institution has 118 charity beds. Clinics are given regularly throughout the session by members of the Faculty connected with the visiting staff of the hospital.

Members of the Faculty on the visiting staff: Professors CLAYTON, MACKALL, MORGAN and LEECH, Clinical Medicine; Professors REICHELDERFER and KERR, and Dr. MARBURY, Clinical Surgery; Professors STAVELY and MILLER, Clinical Gynecology; Professor CARMICHAEL, Clinical Dermatology; Professors SHUTE and BUTLER, Clinical Ophthalmology; Professor HAGNER, Clinical Genito-Urinary Surgery; Professor YARROW, Consulting Physician; Professor BOWEN, Clinical Obstetrics.

Children's Hospital

W Street, between Twelfth and Thirteenth Streets N. W.—Regular instruction is given in the medical and surgical wards by members of the Faculty on the visiting staff of the hospital. This institution has 100 charity beds. There is also a large out-patient department, to which students are regularly assigned for clinical instruction.

Members of the Faculty on the visiting staff: Professor YARROW, Consulting Physician, Professors REICHELDERFER, KERR and WELLINGTON, Clinical Surgery; Professors ACKER and LEECH and Drs. COPELAND, DONNALLY and COLLINS, Clinical Medicine; Dr. HALL, Orthopedic Surgery.

Emergency Hospital and Central Dispensary

1711 New York Avenue.—This hospital has 100 charity beds, and has a very large out-patient service. The large emergency service gives exceptional facilities in clinical surgery, particularly in fractures and dislocations which are taught in regular clinics by the instructor in this subject.

Members of the Faculty on the visiting staff: Professor HAGNER, Clinical Genito-Urinary Diseases; Professors WHITE and CARR, and Drs. PRENTISS, JACKSON and LEWIS, Surgery; Professor MORGAN and Dr. LITTLEPAGE, Clinical Medicine; Professor CARMICHAEL, Clinical Dermatology; Dr. MILLER, Clinical Gynecology; Professor SHANDS and Dr. FOLEY, Orthopedics; Professor SHUTE, Ophthalmology; Dr. ELISON, Director of Clinics.

Columbia Hospital for Women

Twenty-fifth Street and Pennsylvania Avenue N.W.—This hospital has 40 charity beds for diseases peculiar to women, and 40 charity maternity beds. Both the obstetrical and the gynecological services are particularly good and are fully utilized for students.

Members of the Faculty on the visiting staff: Professors BOVÉE and MILLER, and Drs. D. L. BORDEN, RIGGLES and SULLIVAN, Clinical Gynecology.

cology; Professors LAWSON and BOWEN and Drs. RIGGLES and SNOWDEN, Clinical Obstetrics; Professor SHUTE, Ophthalmology; Professor RUFFIN, Visiting Physician; Dr. ABBE, Surgery; Dr. COPELAND, Pediatrics.

Saint Elizabeth's Hospital

This hospital is maintained by the United States Government. It has 3,000 beds. Clinical instruction in mental diseases is given by the superintendent of the hospital, Professor W. A. WHITE, and Drs. HAS-SALL and CHAPMAN. Other members of the Faculty on service at this hospital are Professor FRANZ; Professor SHUTE, Consulting Ophthalmologist; Professors RUFFIN and MORGAN, Consulting Physicians.

Episcopal Eye, Ear, Throat, and Nose Hospital

Fifteenth Street, between L and M Streets N.W.—Excellent opportunities for clinical instruction in ophthalmology, otology, laryngology, and rhinology are offered by this hospital.

Members of the Faculty on its staff: Professor RICHARDSON, Clinical Otology and Laryngology; Professor McKIMMIE and Drs. HUNTINGTON and GREENE, Clinical Otology and Laryngology; Professor ACKER, Consulting Physician; Dr. SIMPSON, Dermatology.

Lutheran Dispensary

Fourteenth and N Streets N.W.—This dispensary affords good opportunities for clinical study of diseases of the eye, ear, throat, and nose.

Members of the Faculty on its staff: Professor BUTLER, Surgeon-in-Charge; Dr. SEIBERT, Ophthalmology; Professor ACKER, Consulting Physician.

Casualty Hospital

Massachusetts Avenue N.E.—Opportunities in emergency and dispensary work are offered by this institution.

Members of the Faculty on its staff: Professor ACKER, Consulting Physician; Professor REEVES and Dr. ROGERS, Clinical Surgery; Dr. HALL, Orthopedic Surgery; Dr. KANE, Obstetrics; Dr. PAGAN, Gynecology.

Tuberculosis Hospital

Fourteenth and Upshur Streets N.W.—Members of the Faculty on its staff: Professor CLAYTOR, and Dr. TEWKSBURY, Clinical Medicine; Dr. REICHELDERFER, Clinical Surgery; Professor RICHARDSON, Ophthalmology.

CLASSIFICATION AND ADVANCEMENT OF STUDENTS

Students are divided into four classes, according to their proficiency and the time spent, viz: first year, second year, third year and fourth year.

Proficiency in all subjects is marked on a scale of 100. The passing grade in each subject is 75.

Examinations are held at the end of the course in each subject. Students who fail to appear at a regular examination will not be examined until the next regular examination except by special permission of the Advisory Committee of the Faculty. For special examinations, a fee of five dollars will be charged for each subject.

To be *advanced*, a student must not fail in more than one major or two minor subjects. It is recommended that students advanced conditioned remove their conditions in the September examinations. Students advanced conditioned must remove all such conditions before they can be again advanced.

Students who fail in more than one major or two minor subjects, will not be given re-examinations in the September examinations except by special permission of the Advisory Committee of the Faculty.

Students who fail of graduation because of deficiency in but one major or two minors, if approved by the Advisory Committee of the Faculty, may be re-examined in the September examinations for graduation. Students who are allowed this privilege, will be required to take such examinations as the Advisory Committee may direct.

Students who fail of advancement or graduation will be required to repeat a year, taking such subjects as may be directed by the Advisory Committee of the Faculty.

Students who fail of advancement after repeating any one of the first three years or who fail of graduation after repeating the final year, will not be permitted to maintain their connection with the school.

REQUIREMENTS FOR GRADUATION

Every candidate for the degree of Doctor of Medicine must be at least twenty-one years of age and of reputable character. He must have complied with the admission and other requirements herein set forth. He must have attended at least 80 per cent of all required instruction during four sessions of 32 weeks each in four separate years; must have satisfactorily completed all his courses and passed all his examinations. He must be present at the time specified for the final examinations, and also at Commencement. The degree is not conferred in the absence of a candidate except by special consent of the President's Council. Graduates of other accredited colleges who desire degrees must spend one year in residence at this school.

Candidates who in their work and examinations attain general averages of 90 or more will be presented to the Faculty for consideration with reference to being designated as "having graduated with distinction." If in the opinion of the Faculty such candidates have shown themselves to be possessed of more than ordinary merit, they will have inscribed upon their diplomas beneath their degree the words "with distinction."

PRIZES

A prize from the Ordranax Prize Endowment will be awarded to the student of the third, and the student of the fourth year class who has the highest scholastic standing.

SOCIETIES

The George Washington University Medical Society was established in 1905 by a group of alumni. Its purpose is to cultivate closer friendly relations between the alumni and members of the faculty by means of social gatherings, and the advancement of medical science by the presentation of essays, case reports and specimens for instruction and discussion, at its meetings, and further the interest of the university in general. All alumni and members of the faculty are eligible for membership on election.

Officers: Dr. W. Ashby Frankland, *President*, Dr. C. B. Conklin, *Vice-President*, Dr. Thomas Miller, Jr., *Secretary*, Dr. E. G. Seibert, *Treasurer*.

Meets at the Medical School on the third Saturday of the month from October to May.

Senior students are invited to attend the meetings of this society.

HOSPITAL APPOINTMENTS

Interns are annually appointed in the University Hospital. These appointments are made upon competitive examinations under conditions determined by the governing authorities of the Hospital. Appointments to similar positions are open to the graduates and undergraduates of this school in the following other hospitals of the city: Garfield Memorial Hospital, Emergency Hospital, Columbia Hospital for Women, Casualty Hospital, Providence Hospital, Washington Asylum Hospital, Children's Hospital, Episcopal Eye, Ear and Throat Hospital.

FEES AND CONTINGENT EXPENSES

Matriculation fee, payable but once.....	\$5.00
Tuition each year.....	175.00
Graduation fee.....	10.00
Breakage fee.....	10.00
Supplementary examinations each.....	5.00

This includes all laboratory fees and charges for material used in practical anatomy and operative surgery. Students will, however, be required to pay all charges for injury to microscopes, apparatus and other college property.

All breakage and loss not directly traceable to the individual student is assessed pro rata, and any unforfeited balance will be returned to the student at the expiration of the course.

Persons not candidates for the degree of Doctor of Medicine who

take courses in Histology, Embryology, Bacteriology, Pathology or Clinical Microscopy will be charged a fee of \$6.00 for the use of the microscope in each of these courses. Should such a student take more than one of the courses mentioned, in any one school year, he will be charged a single fee of \$6.00 for microscope rental.

Students who elect to take the regular four year course in five years will be required to pay the full tuition for the first four years and will receive the fifth year without additional charge.

Persons are allowed to register as auditors for the tuition fees without being required to take active part in the exercises or to pass examinations but no credit will be allowed for such attendance.

No registration will be accepted for less than a full half-year, and no change in the courses undertaken at the time of registration will be made unless approved by the Dean. Registration in the Medical School is for a period not to exceed one year at a time, and acceptance by the School of a student's matriculation fee or registration does not in any way obligate the School to accept that student for any subsequent year.

Matriculation, other fees and deposits are due in full in advance. Tuition may be paid in eight monthly installments in advance. Students who are unable to pay their fees monthly in advance will be required to file an acceptable personal or corporate bond of \$200 as security for future payment. In every instance all indebtedness must be discharged on or before May 1 of the current school year. All fees are payable at the office of the Dean.

PREMEDICAL YEARS

Special Course Admitting to the Medical School but not Leading to a Degree in the Arts Department

Matriculation, (payable but once).....	\$5
Library, per annum.....	2
Tuition, per annum.....	150
First Year	
Chemistry laboratory	
Materials.....	10
Breakage.....	10
Zoology	
Materials.....	5
Second Year	
Zoology	
Materials.....	5
Physics Laboratory	
Materials.....	10

If Chemistry 3 is elected, a \$10.00 fee for materials and a \$10.00 deposit fee will be required.

Courses Leading to the Degree of Bachelor of Science in Medicine

Matriculation, (payable but once)	\$5
Library, per annum	2
Tuition, per annum.....	150
First Year	
Chemistry laboratory	
Materials.....	10
Breakage.....	10
Zoology	
Materials.....	5
Second Year	
Chemistry laboratory	
Materials.....	10
Breakage.....	10
Zoology	
Materials.....	5
Physics	
Material fee.....	10

WITHDRAWALS

Withdrawals will be granted only on recommendation of the Dean and the approval of the President.

A certificate of work actually done will be given to any student granted a withdrawal or a transfer to another school during the session. A written request for withdrawal or transfer must be filed with the Dean and no permission to withdraw or transfer, and no certificate of work done will be given a student unless all fees and dues chargeable against him up to the end of the month in which he withdraws have been paid.

BOARD AND ROOMS

A register of boarding houses is kept by the Treasurer. Accommodations cost from \$25 to \$40 a month.

For catalogues, application blanks, and further information, address
THE DEAN

*Medical School,
The George Washington University,
1335 H Street N. W., Washington, D. C.*

THE GEORGE WASHINGTON UNIVERSITY TRAINING SCHOOL FOR NURSES

CHARLES HERBERT STOCKTON, LL.D.....	President of the University
WILLIAM CLINE BORDEN, M.D.....	Dean, Department of Medicine and Chairman of the Executive Committee
MARY WINIFRED GLASCOCK, R.N.....	Superintendent of Nurses and Principal of Training School
JOHN WESLEY BOVÉE, M.D.....	Gynecology
CHARLES WILLIAMSON RICHARDSON, M.D. }	} Ear, Nose and Throat
OSCAR ADDISON MACK McKIMMIE, M.D. }	
BUCKNER MAGILL RANDOLPH, M.D.....	Materia Medica
RANDOLPH BRYAN CARMICHAEL, M.D.....	Dermatology
OSCAR BENWOOD HUNTER, A.B., M.D.....	Anatomy
MARCUS WARD LYON, Ph.D., M.D.....	Bacteriology
JAMES HAROLD COLLINS, A.M., M.D.....	Physiology
EDGAR PASQUAL COPELAND, M.D.....	Pediatrics
DANIEL LERAY BORDEN, M.D.....	Surgery
ALBERT ELWOOD PAGAN, M.D.....	Obstetrics
EVERETT MONROE ELLISON, A.M., M.D.,	Medical Nursing and Contagious Diseases
TRUMAN ABBE, A.B., M.D.....	Bandaging
WILLIAM HOLLAND WILMER, M.D.....	Eye
JOHN BRUCE COPPING	Superintendent of the University Hospital
FRANCES BECKWITH, Assistant Superintendent of Nurses	and Head Operating Room Nurse
MARY F. GALLAGHER	Night Superintendent of Nurses
EDITH P. NASH.....	Dietetician
MARY KERNAN	Instructor in Massage
MARY MILLER.....	In charge of Nurses Home

The George Washington University Training School for Nurses in connection with the University Hospital, was opened February 28, 1903.

OBJECT AND ADMINISTRATION OF THE TRAINING SCHOOL

The object of the Training School is to give instruction to women in the art of nursing. It is under the general supervision of the President and Board of Trustees of the University and under the direct control of the Executive Committee of the Faculty of Medicine and under the immediate charge of the Superintendent of Nurses. The University Hospital is an integral part of the Medical School of the University and was founded primarily for teaching purposes. It has all the advantages arising from connection with a medical school of high grade.

The Staff of the Hospital are all members of the Faculty of Medicine of the Medical School and the nurses receive the benefit arising from instruction and nursing cases under these trained instructors.

The Hospital itself is a general hospital located in the central part of the city, and connected with it there is a Dispensary having a large out-patient service, so that the Institution affords a thorough and practical experience in medical, surgical, gynecological, obstetrical and emergency nursing and the administration work incident to a hospital.

The Nurses Home is located at 1016 13th street N.W., a short distance from the Hospital, and furnishes the nurses excellent and adequate accommodations.

BOARD OF LADY MANAGERS

Since the establishing of the Hospital and Training School for Nurses, both these Institutions have been very materially assisted by a most efficient Board of Lady Managers. This Board has worked most energetically in the interest of both the Hospital and Training School, and by personal endeavor and financial assistance have done much to improve these institutions.

REQUIREMENTS FOR ADMISSION

Candidates must apply personally or by letter to the Superintendent of Nurses upon blank forms provided therefor. Applicants must be not less than 19 nor over 30 years of age. They must be in good physical condition and present satisfactory evidence of their preliminary educational qualifications. Graduation from a grammar school and three years' work in a high school or academy or its equivalent are necessary. Approved applicants will be taken for a probationary period of four months as vacancies may occur. Such probationers as are deemed fitted for the duties of nurses, at the expiration of their probationary period, upon subscribing to the requirements of the school, will be accepted as pupil nurses.

Classes of probationers enter in January, May and September.

COURSE OF TRAINING

The course of training (including the probationary period) covers three years and comprises theoretical and practical instruction. Practical instruction is given in the wards of the Hospital under the supervision of the Superintendent of Nurses and at the Episcopal Eye, Ear and Throat Hospital, to which each pupil is assigned for a period of four months, as well as at the Children's Hospital during a two months' assignment there.

The theoretical instruction is given by the members of the Faculty of Medicine and by the Superintendent of Nurses and her assistants. The course in theoretical and practical instruction is as follows:

- (1) Medical nursing (including *Materia Medica*.)
- (2) Surgical nursing with operative technic, including gynecology.
- (3) Obstetrical nursing (each pupil to have had the care of not less than six cases).
- (4) Nursing of sick children.
- (5) Diet cooking for the sick including (a) twelve lessons in cooking in a good technical school or with a competent diet teacher; (b) Food values, and feeding in special cases, to be taught in classes and not in lectures.
- (6) A thorough course of theoretical instruction in contagious nursing where practical experience is impossible.
- (7) Bacteriology.

REGULATIONS

I. Probationers, when admitted to the school, will require the following outfit: *Uniform*. 3 uniform dresses, 2 uniform caps, 12 uniform aprons, 1 dozen pairs uniform cuffs;

Additional articles: 3 striped underskirts, 2 laundry bags, 1 pair slippers, 1 watch with second hand, 3 sets plain underclothing, 1 pair blankets for single bed, raincoat, 1 pair rubbers, summer and winter street suits, 1 party dress, 1 kimono, 2 washable dressing sacques, text-books.

II. The cost of the required uniform dresses, caps, aprons and cuffs is \$25. Text-books for the entire course cost about \$15. The cost of the other articles is small.

III. A probationer on admission may bring with her any or all of the articles of her outfit except her uniform. If she is unable to pay for her outfit, it will be furnished her by the hospital upon payment of ten dollars, and one-half her monthly pay will be retained until the cost of the articles is defrayed. All articles furnished by the hospital must remain in the hospital until she graduates.

IV. To insure uniformity and economy the uniform must be secured through the Superintendent of Nurses, and no nurse will be allowed to go on duty until her outfit has been inspected and found to comply with the requirements of the school.

V. All articles of clothing must be plainly made and marked with name in full.

VI. Jewelry is not allowed to be worn on duty, and if of any value is best left at home. If brought, it will be at the risk of the owner.

VII. Two hours, if work permits, are allowed every week day, for rest, study and recreation, also one-half day after 2 p.m. each week, and four hours each Sunday.

VIII. A vacation of two weeks is allowed each year, and in case of senior nurses, a vacation of four weeks will be allowed if the Hospital duties permit.

IX. A pupil nurse may be dismissed at any time if there is sufficient

cause for such action, but no dismissal shall be made without the approval of the President of the University.

SALARY

Instruction and training are considered the full equivalent for the services of a pupil nurse; however, a salary of \$7 a month is paid (including the four months probation period.)

DIRECTORY FOR NURSES

A general directory for Graduate Trained Nurses was established in connection with the Training School and Hospital during the first year in which the Training School was in operation. The object of this directory is to afford a means to physicians and patients of securing with the least loss of time, the services of nurses who have graduated from our Training School. The Directory is under the supervision of the Executive Committee of the Faculty of Medicine and under the direct charge of the Superintendent of Nurses.

GRADUATES

June, 1916, Convocation

Dolores L. Armijo.....	New Mexico
Nannie H. Blackmore.....	Virginia
Ernestine H. Dodd.....	District of Columbia
Bernice L. Davis.....	Virginia
Mary F. Gallagher.....	Ireland
Ruth P. Gray.....	Maryland
Minnie H. Hall.....	Virginia
Mary L. Harrover.....	Virginia
Willa S. Hollida.....	West Virginia
Elizabeth P. Jolliffe.....	Maryland
Lucy M. Kelley.....	District of Columbia
Evelyn L. Lee.....	Virginia
Genevieve F. Loughhead.....	New York
Louise Melton.....	North Carolina
Cassie L. Sutherland.....	Virginia
Sue Catherine Whalen.....	District of Columbia
Annie F. Garber.....	Virginia

February, 1917, Convocation

Hazel Hixson Hayes.....	Ohio
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Personal application should be made, or communication addressed to

THE SUPERINTENDENT OF NURSES,
GEORGE WASHINGTON UNIVERSITY,
TRAINING SCHOOL FOR NURSES,
1339 H St., N.W.
Washington, D. C.

DENTAL SCHOOL

FACULTY

CHARLES HERBERT STOCKTON, LL.D....PRESIDENT OF THE UNIVERSITY
JOHN ROLAND WALTON, D.D.S.,

Dean and Professor of Prosthetic Dentistry and Orthodontia

HENRY CLAY THOMPSON, D.D.S.....Professor of Operative Dentistry

CHARLES EDWARD MUNROE, Ph.D., LL.D.Professor of Chemistry

CHARLES STANLEY WHITE, M.D.....Clinical Professor of Oral Surgery

NOBLE PRICE BARNES, M.D.,

Professor of Materia Medica and Therapeutics

OSCAR BENWOOD HUNTER, A.B., M.D.,

Professor of Histology and Embryology and Associate

Professor of Anatomy

CARL LAWRENCE DAVIS, M.D.....Professor of Anatomy

FRANK ADELBERT HORNADAY, S.B., M.D.,

Professor of Physiological Chemistry

MILLARD FILLMORE THOMPSON, M.D.,

Associate Professor of Oral Surgery

ROBERT LLOYD ELLER, D.D.S.,

Professor of Radiography and Oral Prophylaxis

CHARLES TURK BASSETT, D.D.S.,

Associate Professor in Charge of the Dental Infirmary

WILLIAM FRANCIS LAWRENCE, D.D.S.

Associate Professor of Prosthetic Technics

D. DEWITT BEEKMAN, D.D.S.,....Associate Professor of Materia

Medica and Therapeutics and in Charge of Dental Infirmary

EUGENE ROGER STONE, D.D.S.....Associate Professor of Oral Surgery

JAMES WALTER BERNHARD, D.D.S.,

Associate Professor of Crown and Bridge Work

WALTER LOWELL HAGAN, D.D.S.,

Associate Professor of Operative Technics

JAMES HAROLD COLLINS, A.B., M.D., Associate Professor of Physiology

CHARLES GARDNER SHOEMAKER, D.D.S.,

Associate Professor of Operative Technics

WILLIAM CARL KILLINGER, D.D.S.....Professor of Orthodontia

JOHN WINSLOW TAYLOR, D.D.S.....Instructor in Prosthetic Technics

HENRY CISEL YOUNG, D.D.S.....Instructor in Prosthetic Technics

CHARLES WALTER RICH, D.D.S.....Instructor in Prosthetic Technics

JOHN PRESTON MARSTELLA, D.D.S.,

Instructor in Prosthetic Technics

ORVILLE NEWTON FANSLER, D.D.S., Instructor in Prosthetic Technics

JASPER NEWTON ROBERTS, D.D.S..Instructor in Prosthetic Technics

EDWARD EARL GOLDEN, D.D.S., Instructor in Crown and Bridge Work
HENRY MERLE SPILLAN, D.D.S., Instructor in Crown and Bridge Work
JAMES ROBERT SCOTT, M.D., Instructor in Bacteriology and Pathology
RICHARD KNIGHT THOMPSON, D.D.S., Instructor in Operative Technics
EDWIN ROSS TILLEY, D.D.S., Instructor in Operative Technics
JOSEPH ALTSHULER FRIEDMAN, D.D.S.,
Instructor in Prosthetic Technics

GENERAL STATEMENT

The first course of lectures in the Dental School began November, 1887, under the title of "The Columbian University Dental Department." The course then extended over two years of five months each. Two years later the course was extended to seven months; but, this additional time being found inadequate to keep pace with the ever-increasing demand for higher dental education, the course was gradually increased, until now it extends four years of eight months each.

The next academic year begins on Wednesday, September 26, 1917, and ends on Wednesday, June 5, 1918. Students should register promptly at the office of the Dean at the beginning of the session, and no student can be received and credited with a full term after ten days from the first lecture. Final examinations are held at the conclusion of the instruction in each subject. For further information communicate with the Dean of the Dental School.

ADMISSION

Candidates for matriculation must show that they are fitted by previous education to study dentistry. For this purpose they must present a satisfactory certificate of their attainments or they must pass an examination.

Candidates are admitted without examination:

1. Upon presenting a diploma or certificate of graduation from an accredited four-year high school, or an equivalent certificate or diploma.
2. Upon presenting a certificate of admission to the Freshman class of a college having like admission requirements.

Candidates unable to comply with the foregoing requirements are admitted upon passing an examination based upon the general requirement for graduation from an accredited four-year high school.

The scope of the different subjects is indicated in standard high school text-books.

COURSE OF INSTRUCTION

The course of instruction extends through four years of eight months each. The subjects taught during the course are divided as follows:

	Hours
Operative and Clinical Dentistry.....	1300
Prosthetic Technics.....	384
Crown and Bridge Technics.....	320
Operative Technics.....	160
Dental Anatomy.....	96
Orthodontia.....	96
Oral Surgery.....	96
Physics, Biology or both.....	192
Chemistry (Inorganic—organic—physiological—metal- lurgy).....	320
Technical Drawing.....	48
Anatomy.....	320
Histology.....	128
Pathology (General and Dental).....	128
Materia Medica.....	64
Bacteriology.....	128
Physiology.....	128
English.....	96
Physical Diagnosis, Anesthesia.....	32
Radiology.....	16
Jurisprudence, History, Ethics, Economics.....	32
Additions to above, or other subjects.....	316
Total.....	4400

These studies are further described in the following pages.

Hours of recitation, daily from 4.50 p.m. to 6.30 p.m.; from 7.30 to 10.30 p.m. Dental Infirmary, 1 p.m. to 5 p.m.

PROSTHETIC DENTISTRY

JOHN ROLAND WALTON, D.D.S..... Professor

All branches in this department will be under the supervision of the professor. He will deliver the lectures and manage in person and through his assistants the quiz work and course of instruction. This system will prevent confusion in method and technical procedures.

OPERATIVE DENTISTRY, DENTAL ANATOMY AND PATHOLOGY

HENRY CLAY THOMPSON, D.D.S..... Professor

This course embraces lectures on the special anatomy and physiology of the teeth. The origin, growth, and eruption of the teeth receive minute attention, and are illustrated as their importance demands.

The methods of treating and filling teeth will receive attention in the lecture-room, and are demonstrated clinically by proficient operators.

Extended consideration is given to Black's method of dental pathology and therapeutics. This chair has personal supervision of the department of Operative Technics and the infirmary practice.

CHEMISTRY

CHARLES EDWARD MUNROE, Ph.D., LL.D.....	Professor
FRANK ADELBERT HORNADAY, S.B., M.D.....	Professor
RICHARD KNIGHT THOMPSON, D.D.S.....	Instructor

The instruction in this subject embraces:

A short discussion of the principles of Physics in their relation to Chemistry, the principle of chemical philosophy, and the laws of chemical combination.

A study of the elements, metallic and non-metallic; the preparation, properties, and reaction of their different compounds and their application in dentistry; Organic Chemistry, with special attention to those organic compounds that are of practical use; laboratory instruction in the determination of acids and bases, analyses of alloys, etc.

A course, both didactic and laboratory, consisting of about twenty-five periods of three hours each, is given in metallurgy, including the use and care of furnaces, the construction of an electric furnace, the study of the occurrence in nature, methods of isolation, properties and uses of the commoner metals of value in dentistry. Each student prepares a considerable number of alloys, recovers gold and silver from alloy scraps and makes analyses of alloys.

PHYSIOLOGY

JAMES HAROLD COLLINS, A.M., M.D.	Associate Professor
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This subject is taught in lectures, recitations, and laboratory exercises. In the lectures and recitations special emphasis is placed upon those parts of physiology that have a known bearing upon dental medicine and surgery, especially digestion, secretion, and the nervous system. Three laboratory periods a week during a semester give the student first-hand knowledge of the principal facts about the general functions of tissues, and the special functions of the nervous system, the special senses, the heart, circulation, digestion, and respiration.

ANATOMY

CARL LAWRENCE DAVIS, M.D.....	Professor
OSCAR BENWOOD HUNTER, A.B., M.D.....	Associate Professor

The instruction in Anatomy is given in a graded course of lectures, recitations from prescribed text-books, and especially by practical work in the dissection of the cadaver. The lectures are illustrated by the use of dry and wet dissections of the cadaver, by models, diagrams, charts, and stereopticon views.

Practical work in osteology and in dissection of the head are of fundamental importance. For the study of these subjects the class is divided into sections in order to make the instruction as practical as possible. The bones of the skeleton are placed in each student's hands, and he is instructed and quizzed upon all their important features.

MATERIA MEDICA AND THERAPEUTICS

NOBLE PRICE BARNES, M.D.....	Professor
D. DEWITT BEEKMAN, D.D.S.....	Professor

Instruction in these subjects embraces:

The study of crude drugs and their preparations and the art of prescribing; the physiological action of drugs in the human system; the practical application of drugs and other therapeutical agencies to the prevention and cure of diseases and the relief of suffering, together with their antidotal relation to poisons.

The subject is taught by means of lectures, recitations, and blackboard illustrations, and is made practical to as great a degree as is compatible with a sufficiently thorough understanding of its principles.

Special attention is given to those drugs that are of most value in the practice of dentistry.

ORAL SURGERY

CHARLES STANLEY WHITE, M.D.....	Clinical Professor
MILLARD FILLMORE THOMPSON, D.D.S., M.D.	Professor
EUGENE ROGER STONE, D.D.S.....	Associate Professor

Instruction in this subject consists of a systematic course of lectures, followed by recitations, and clinical teaching is carried on in the Infirmary and Hospital Dispensary. Amphitheatre clinics are given in the University and other hospitals to which the members of the Faculty are attached. A free bed in the University Hospital is at the disposal of this department. Operations and demonstrations on the cadaver form a valuable part of the course.

The lectures deal with applied anatomy, surgical bacteriology and pathology, surgical technique, wounds, hemorrhage, shock, surgical diseases and injuries of the face, mouth and jaws, extraction of teeth and local and general anesthesia.

Students are expected to attend the amphitheatre clinics when notified and are required to present at least one case-history as a prerequisite to examination.

Text-Books and Works of Reference.—Blair, Surgery and Diseases of the Mouth and Jaws; Scudder, Tumors of the Jaws; Winters, Exodontia; Hewitt, Anesthetics.

HISTOLOGY

OSCAR BENWOOD HUNTER, A.B., M.D. Professor

The course in Histology consists in a systematic presentation of the subject of the minute anatomy of the various parts of the body, especial attention being devoted to the histology of the teeth and neighboring structures. The subject is presented partly by systematic lectures, and more especially by the practical study by the individual students of actual specimens under the microscope. The methods of preparation of microscopical specimens are presented and practiced in the laboratory. The projection microscope, affording valuable aid in illustrating and presenting the subject, is constantly used.

PATHOLOGY AND BACTERIOLOGY

MARCUS WARD LYON, JR., M.D., Ph.D. Professor

JAMES ROBERT SCOTT, Ph.D., M.D. Instructor

The course begins with a consideration of the principles involved in the process of sterilization by dry and moist heat, the relative value and mode of application of each, and an explanation of the construction of the apparatus employed for the purpose. The use and construction of the thermostat is taken up at the same time and the student taught how he can dispense with these costly appliances in emergencies.

The composition and modes of preparation of the various nutritive media are next considered, working formulas given, and the student required to prepare them at least once in the laboratory. This is followed by a discussion of bacteria as a class, their position in the biological world, their classification, distribution, and the general and special characters that belong to them.

After this preparatory training the various methods in use for the isolation and study of bacteria are taught by practical demonstration and practiced by the students, after which the most important pyogenic organisms are studied in detail, giving special attention to those found in the nasal and oral cavities.

The aim of the course is chiefly to afford the students an opportunity to become practically familiar with bacteriological working methods, and to enable them to isolate and identify the bacteria present in suppurative processes, as well as to comprehend intelligently the references to micro-organisms in the current professional literature of the day.

PROSTHETIC TECHNICS

WILLIAM FRANCIS LAWRENCE, D.D.S. Associate Professor

JOHN WINSLOW TAYLOR, D.D.S. Instructor

HENRY CISSEL YOUNG, D.D.S. Instructor

CHARLES WALTER RICH, D.D.S. Instructor

JOHN PRESTON MARSTELLA, D.D.S. Instructor

ORVILLE NEWTON FANSLER, D.D.S.....	Instructor
JASPER NEWTON ROBERTS, D.D.S.....	Instructor
EDWIN ROSS TILLEY, D.D.S.....	Instructor
JOSEPH ALTSHULER FRIEDMAN, D.D.S.....	Instructor

The technic laboratories are thoroughly equipped for their particular work. The course in prosthetic technics extends through the Freshman, Sophomore, Junior, and Senior years.

The Freshman year is a technical and didactic course. The students are taught the proper equipment of a dental laboratory; the preparation of the mouth for dentures; methods of taking impressions of the mouth and manipulation of the various impression materials; the preparation and mounting of models; selection and anatomical arrangement of teeth; the construction of plastic dentures and crowns with general details.

The sophomore course is technical and didactic; advanced mechanical detail work of the Freshman year including clinical work in the infirmary.

In the Junior class the course will be extended technical and didactic work, embracing a practical clinical course in taking impressions, making models, dies, and casting; swaging, rimming, attaching teeth by rubber, and in general construction of metal dentures, crown and bridge work, and ceramics.

The Senior work consists of a practical course, embracing the swaging of plates, teeth attached by soldering, clasps, porcelain work, advanced bridge work, removable bridges, and the detailed construction of all work in prosthetic dentistry.

The work of the Department is under the immediate supervision of the associate professor.

ORTHODONTIA

WILLIAM C. KILLENGER, D.D.S.....	Associate Professor
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Junior-year Orthodontia is a technical course with lectures and demonstrations. The Senior course is a review of the Junior studies with advanced lectures upon the irregularities of the teeth, local and constitutional. Each student is required to make a number of appliances upon models and practically correct cases of irregularity.

OPERATIVE TECHNICIS

CHARLES GARDNER SHOEMAKER, D.D.S.....	Associate Professor
WALTER LOWELL HAGAN, D.D.S.....	Associate Professor
RICHARD KNIGHT THOMPSON, D.D.S.....	Instructor
EDWIN ROSS TILLEY, D.D.S.....	Instructor

This subject is taught by lectures, illustrated by enlarged models and drawings, together with demonstrations of instruments and materials.

The students perform exercises in manipulative procedure under the direction of the instructors.

The subjects embraced in the course consist, first, of the study of dental nomenclature, that the student may acquire an understanding of the technical terms used in the course of his dental studies. This is followed by descriptive dental anatomy, and the forms and surface markings of each tooth studied, the natural teeth, as well as enlarged models and drawings being used for the purpose. Each student is required to make various sections of the teeth for the thorough study of the pulp chambers and root canals and their relations to the external surface of the teeth.

That tooth-forms may be more perfectly impressed upon the mind of the students, each student is required to carve a tooth of the several classes, as incisor, cuspid, bicuspid, and molar, in bone or artificial ivory, representing the actual form and size of the natural organ. Cavities are classified and illustrated by drawings and models, followed by their preparation and filling in technic forms by the student. Treating and filling root canals is given full attention, the students performing operations of this kind upon natural teeth mounted for the purpose.

All work, in its relation to operative dentistry, is given the necessary consideration to fit the student for meeting, as far as possible, the actual requirements of the infirmary.

RADIOGRAPHY

ROBERT LLOYD ELLER, D.D.S.....Instructor

The course comprises elementary principles of Radiography, technic involved in special dental radiography, when and where the radiograph is indicated in the dental practice, the reading of dental radiographs, and stereopticon lectures on a collection of dental radiographs.

COMPARATIVE DENTAL ANATOMY

The senior students will study in this course the food habits and the teeth of animals. The forms of teeth and their uses as weapons of offense and defense will be studied.

CROWN AND BRIDGE-WORK, GOLD INLAY, AND PORCELAIN

JAMES WALTER BERNHARD, D.D.S.....Associate Professor
EDWARD EARL GOLDEN, D.D.S.....Instructor
HENRY MERLE SPILLAN, D.D.S.....Instructor

Instruction in this course is systematically given by lectures and clinics. The course in technic extends through the Sophomore, Junior and Senior years.

Students are taught the principles and practice of inlay work, porcelain crowns, high and low fusing bodies, the use of the electric and gas furnaces.

METALLURGY

The subject of Metallurgy taught in the metallurgical laboratory will be reviewed and an extended didactic quiz course will be given in metals, alloys, and amalgams which are used in dentistry.

PROFESSIONAL ETHICS, DENTAL JURISPRUDENCE, AND ECONOMICS

Ethics.—These lectures on ethics consist of a brief statement of the moral obligations of professional men to each other and to their patients, the duty of upholding the honor and dignity of the profession, and the differences between the profession and business or manufacturing pursuits.

Jurisprudence.—The lectures on jurisprudence will follow the text-book, which fully elucidates the legal relation of the dentist to his patients, the importance of dental records, the limitations of dental practice, the liabilities incurred by those who administer anaesthetics, the penalties, etc.

Economics.—This course will instruct the student in the proper methods to insure a practice and to retain patients; will discuss business relations between patients and dentist, fees, book and card systems, and the general economy in conducting an office.

ORAL PROPHYLAXIS

ROBERT LLOYD ELLER, D.D.S. Professor

This subject will be taught didactically, and clinically practical work by the students in the treatment of the oral cavity will be required.

DISEASES OF THE ORAL CAVITY MANIFESTED SYSTEMICALLY

MILLARD FILLMORE THOMPSON, D.D.S., M.D. Professor

In this course of lectures the object will be to acquaint the student with primary pathological conditions of the mouth and their remote manifestation in the general system; also the systemic diseases which directly affect the oral cavity.

THE DENTAL INFIRMARY

CHARLES TURK BASSETT, D.D.S. Associate Professor in Charge
D. DEWITT BECKMAN, D.D.S. Associate Professor in Charge
EUGENE ROGERS STONE, D.D.S. Demonstrator
RICHARD KNIGHT THOMPSON, D.D.S. Demonstrator
EDWIN ROSS TILLEY, D.D.S. Demonstrator

The Infirmary is open every week-day the entire year. An abundance of clinical material is readily available. In fact, as many patients present themselves as can possibly be attended to by the students. It is

under the immediate supervision of the demonstrator in charge, who is present from 1.00 until 5 o'clock p.m.;

Summer Course 2.30 to 7 p.m.

TEXT-BOOKS AND WORKS OF REFERENCE

(The works first named and in *italics* are preferred)

Anatomy.—Cunningham's *Text-book of Anatomy*; Cunningham's *Manual of Practical Anatomy*; Black's Dental Anatomy.

Physiology.—Text-books: Haliburton's Physiology; Howell's Physiology; Tigerstedt's Physiology.

Pathology and Bacteriology.—Delafield and Prudden's Pathology; Jordan's Bacteriology.

Chemistry.—Holland's *Medical Chemistry*, Simon's *Chemistry*; Barker's *Chemistry*; Mellor's *Modern Inorganic Chemistry*, Hodgen's *Dental Metallurgy*.

Materia Medica.—H. C. Wood's *Therapeutics*; Hare's Practical Therapeutics; A. A. Stevens' Modern Materia Medica and Therapeutics; Culbreath's Materia Medica and Pharmacy; National Dispensatory Reference Text-books, Osborne, Wilcox, Sollmann, Shoemaker, U. S. Pharmacopoeia and National Formulary; Prinz's Dental Materia Medica and Therapeutics; Modern Dental Materia Medica; Buckley's Therapeutics and Pharmacology, Dorland's Medical Dictionary.

Prosthetic Dentistry.—*The American Text-Book of Prosthetic Dentistry*; Wilson's Prosthetic Dentistry; Hodgen's Dental Metallurgy. Horestadt's Principles and Technique of Crown and Bridge.

Operative Dentistry.—Kirk's Operative Dentistry; Black's Principles of Practice; Tome's Dental Anatomy and Surgery; Taft's Operative Dentistry; Litch's American System of Dentistry; Johnson's Operative Dentistry.

Oral Surgery.—Blair's Surgery and Diseases of the Mouth and Jaws; Seudder's Tumors of the Jaws; White's Exodontia; DeWitt's Anesthetics.

Histology.—Nichols, Bohm and Davidoff's Histology.

Orthodontia.—Dewey's Practical Orthodontia; Angle's Treatment of Malocclusion of the Teeth and Fractures of the Maxillæ; Talbot's Irregularities of the Teeth; Jackson's Orthodontia.

Dental Jurisprudence.—Noyes's Ethics and Jurisprudence for Dentists.

Dental Pathology and Therapeutics.—Burchard's Dental Pathology and Therapeutics, Blacks' Dental Pathology and Therapeutics.

Comparative Dental Anatomy.—Thompson's Comparative Dental Anatomy.

GRADUATION

Effective with matriculants of the fall of 1917, candidates for graduation must have attended four full courses of lectures, each of eight months' duration, and four courses of clinical instruction in this School, during the regular winter term and in separate years. Students are

examined at the end of the regular course upon all subjects taught them during that course. Should the student fail in his examination in course, he may be re-examined in the fall. All fees must be paid and Infirmary requirements complied with before the student may present himself for examination.

Students must enter before, or within ten days after, the opening lecture of the regular course. Advanced students may register at any time during the Infirmary course, and thus begin Infirmary practice at once upon payment of twenty-five dollars, which amount will be deducted from their tuition fees for the succeeding regular term.

The candidate for graduation must be examined upon all subjects taught in this School, and before the examination he shall have attended 85 per cent of the course, performed operations upon the natural organs in the Infirmary, and presented the demonstrators in charge of the laboratory with a well-constructed specimen of dental mechanism made by himself in the dental laboratory of the University.

In addition to the above requirements, the moral character and habits of the candidate and his industry, will be taken into consideration. Notable negligence, immorality, or habitual absence from the lectures may preclude the candidate from attaining his degree, even though he may have acquired sufficient technical knowledge to pass a creditable examination. This reservation on the part of the Faculty of the right to make good moral character a prerequisite for graduation must not be overlooked.

The student to matriculate or re-enroll must comply with the State laws regulating the practice of Dentistry, and act in accordance with the recognized code of ethics of the dental profession.

LOCATION

The Dental Building is No. 1335 H Street N. W. It is within half a square of all lines of street cars going to every part of the city.

The Dean may be seen personally at 724 9th Street N. W., on any week day, and also at the Dental Building, 1335 H Street N. W., on Tuesday and Thursday of each week at 4.30 p.m. during the session.

FEES AND CONTINGENT EXPENSES

Matriculation fee, (payable but once).....	\$5
Tuition each year.....	150
Graduation fee.....	10
Breakage fee.....	10
Supplementary examinations, each.....	5

This includes all laboratory fees and charges for material used in practical anatomy. Students will, however, be required to pay all charges for injury to microscopes, apparatus and other college property.

All breakage and loss not directly traceable to the individual student

is assessed pro rata and any unforfeited balance will be returned to the student at the expiration of the course.

Persons not candidates for the degree of Doctor of Dental Surgery who take courses in Histology, Bacteriology or Pathology will be charged a fee of \$6.00 for the use of the microscope in each of these courses. Should such a student take more than one of the courses mentioned in any one school year, he will be charged a single fee of \$6.00 for microscope rental.

Students who elect to take the regular four year course in five years will be required to pay the full tuition for the first four years and will receive the fifth year without further charge.

Persons are allowed to register as auditors for the tuition fees without being required to take active part in the exercises or to pass examinations but no credit will be allowed for such attendance.

No registration will be accepted for less than a full half year, and no change in the courses undertaken at the time of registration will be made unless approved by the Dean. *Withdrawals during the semester will be granted only on recommendation of the Dean and the approval of the President.*

The cost of instruments for the first year amounts to about \$30, and the cost of text-books to about \$20.

PAYMENT OF FEES

Matriculation, other special fees and laboratory deposits are due in full in advance. Tuition may be paid in eight monthly instalments in advance. Students who are unable to pay their fees monthly in advance will be required to file an acceptable personal or corporate bond for \$200 as security for future payment. In every instance all indebtedness must be discharged on or before May 1 of the current academic year. Fees are payable at the office of the Treasurer, 2024 G Street, or at the office of the Medical School, 1335 H Street.

BOARD AND ROOMS

A register of boarding-houses is kept by the Treasurer. Accommodations cost from \$25 to \$40 a month.

For catalogues, application blanks and further information, address
J. ROLAND WALTON, D.D.S., Dean,
724 9th Street N. W.

LAW SCHOOL

FACULTY

CHARLES HERBERT STOCKTON, LL.D.....President of the University
 EVERETT FRASER, A.B., LL.B.....Dean and Professor of Law
 WALTER COLLINS CLEPHANE, LL.M.....Professor of Law
 EDWIN CHARLES BRANDENBURG, LL.M.....Professor of Law
 ARTHUR PETER, LL.B.....Professor of Law
 JOHN PAUL EARNEST, A.M., LL.M.....Professor of Law
 WENDELL PHILLIPS STAFFORD, A.M., LL.D.....Professor of Law
 JOHN WILMER LATIMER, LL.B.....Professor of Law
 MERTON LEROY FERSON, A.M., LL.B.....Professor of Law
 *ARCHIBALD KING, A.M., LL.B.....Assistant Professor of Law
 JAMES LEWIS PARKS, Jr., A.B., LL.B.....Assistant Professor of Law
 *ERNST OTTO SCHREIBER, Jr., A.B., LL.B. Assistant Professor of Law
 JUDSON ADAMS CRANE, A.B., LL.B., S.J.D., Assistant Professor of Law
 WILLIAM CABELL VAN VLECK, A.B., LL.B.,

Secretary of the Law School and Assistant Professor of Law
 LOYD HALL SUTTON, S.B., LL.B.....Instructor in Patent Law
 GEORGE WILLIAM RAMSEY, LL.B.....Instructor in Patent Law
 ROBERT SZOLD, A.B., LL.B.....Instructor in Law
 ALFRED GEISES BUHRMAN.....Clerk of the Moot Court

MOOT COURT OF APPEALS

JOHN B. LARNER, LL.D.....Chief Justice
 HENRY BROWN FLOYD MACFARLAND.....Associate Justice
 STANTON JUDKINS PEELE, LL.D.....Associate Justice

LIBRARY

MAX RHOADE.....Assistant Librarian
 EINAR WELLEN DIESERUD.....Assistant Librarian

GENERAL STATEMENT

History.—The Law School, established in 1865, is the oldest in the city of Washington. Its course of instruction for the degree of Bachelor of Laws originally requiring two years was increased in 1898 to three years. A year of graduate work was added in 1877 leading to the degree of Master of Laws. The curriculum has since been increased by a course of study leading to the degree of Master of Patent Law.

Member of Association of American Law Schools.—The Law School was one of the group of law schools which in 1900 organized the Association of American Law Schools and it has remained a member of the Association since that time. This Association includes forty-eight

* On leave of absence 1916-17.

of the most progressive law schools of the country and is committed to the policy of advancement in legal education. As this school maintains the standards of the Association, work certified by it is given a maximum of credit by other law schools of the country. This enables students who are unable to complete their studies in Washington, to continue them at other institutions with a minimum loss of time and work.

Purpose of Course.—The School aims to give a thorough legal training to students whose education and maturity fit them to pursue serious professional study. Nearly sixty per cent of its students have had college training and their average age is over twenty-five years. A preliminary course in liberal arts is encouraged and the University permits the first year of law work to be counted as the fourth year of college work for the degree of Bachelor of Arts, thus enabling students to obtain both the academic and professional degrees in six years.

Method of Instruction.—The method of instruction followed is designed to instill correct modes of legal study, to train the mind in legal reasoning and to give a thorough grasp of fundamental legal principles. The student studies leading cases—the earlier cases which establish a principle, the later cases which show its qualifications. This study is supplemented by classroom discussion and instruction. Thus while the student is being trained to analyze and to discriminate, he at the same time masters the principles of law, sees the reasons on which they are based, and observes the influence on their development of successive, political, economic and social theories. The method is most practical. The student has always before him actual problems and their solution by the ablest judges of England and America. He begins under his teacher's guidance the work he must do when he enters practice. In no other way can the future lawyer acquire such power to solve the new problems arising from the rapidly changing social and economic conditions of life.

“The only way to clarify and simplify our law as a whole is to reach the lawyer in the making and mold his habits of thought by adequate instruction and training so that when he comes to the Bar he will have learned to think not merely in terms of law but in terms of jurisprudence. The living principle of the case system of instruction in our law schools is that the student is required by a truly scientific method of induction to extract the principle from the decision and to continually state and restate for himself a system of law evolved from its history. He is thus preparing not merely to accept formally dogmatic statements of principles but to receive and assimilate and make his own the systematic thought and learning of the world in the science of jurisprudence. With a Bar subjected generally to that process of instruction, the more general systematic study of jurisprudence would follow naturally and inevitably, and the influence of that study would be universal; and from

that condition would evolve naturally the systematic restatement of our law, by men equal to that great work."*

This inductive case system is the antithesis of the lecture and illustrative case method which is often mistaken for it. The case method is now used in over eighty per cent of the schools in the Association of American Law Schools.

The substantive law is taught almost wholly by professional teachers employing the case method and giving all their time to the school; the practice courses are conducted by lawyers and judges in active practice.

Scope of Course.—The course of study is not local in its scope but constitutes a thorough preparation for the practice of law in any English speaking jurisdiction. It satisfies the professional study required for admission to the Bar examinations of the District of Columbia and all other jurisdictions of the United States. The school has conferred over 2,500 degrees, and its graduates are now practicing in every state of the Union.

ADVANTAGES OF WASHINGTON FOR THE STUDY OF LAW

The city of Washington has unusual attractions for students and particularly for students of law. It lies between the North and the South. It is a residential city of rare beauty, and its population is drawn from all over the United States. The library facilities of the city, both general and legal, are unexcelled. It is unique in the extent of its legal machinery. It is the seat of Congress, the Supreme Court of the United States, the Department of Justice, the United States Court of Claims, the United States Court of Customs Appeals, and of the District of Columbia Court of Appeals, Supreme Court and Municipal Courts, which exercise the dual function of state and federal courts. By attending the sessions of these various bodies students can familiarize themselves with all branches of legal procedure and keep in touch with current legal thought while pursuing their studies.

LOCATION

The Law School occupies the entire fifth and sixth floors of the New Masonic Temple, corner of New York Avenue, Thirteenth and H streets N. W., and is easily accessible from all parts of the city. The quarters are well equipped with commodious class rooms, moot court rooms, offices, the law library, and a students room.

LIBRARY

A well-equipped working library comprising 7150 volumes, is open to students from 8.30 a.m. to 10 p.m. Competent librarians are in charge and will give students assistance in the use of books.

* From address of Hon. Elihu Root, President of the American Bar Association, August, 1916.

The library contains the complete decisions of the highest courts of forty-six states and the District of Columbia, the complete reports of the United States Supreme Court and the other federal courts, the complete National Reporter Reports, the Century, Decennial, Key number and United States Supreme Court Digests, the various encyclopedias of law, the Lawyers Reports Annotated, the American Decisions, American Reports and American State Reports, the English Common Law and Chancery Reports, the English Reprint, the English Law Reports and Law Journal Reports since 1865 and about 800 standard text books and legal periodicals.

In addition to these facilities the students have free access to the Congressional Library and other public libraries.

ACADEMIC YEAR AND REGISTRATION

The academic year 1917-18 begins Wednesday, September 26, closes Wednesday, June 5. The year is divided into two half-years, the second beginning February 4. The course is so arranged that a student may enter the second half-year and be graduated three years from that time, receiving his degree at the Winter Convocation held on or about February 22, of each year.

Students are urged to register at the beginning of the half-year. Those who register later than three weeks after the opening of the half-year, will be restricted to registration for such work only as in the opinion of the faculty they can successfully carry.

HOURS OF INSTRUCTION

The classes are divided into two sections, one meeting in the forenoon between 9 and 12; the other in the afternoon from 4.50 to 6.30. A complete course is available at either period. This enables students in Government or other employment to attend the law school during the day and to have their evenings for study. Classes in a few subjects are held in the morning from 7.50 to 8.40, and may be elected by students of the second and third years in place of subjects of the regular periods.

ADMISSION

I. *For the Degree of Bachelor of Laws.*—The requirements for admission to the course leading to the degree of Bachelor of Laws may be satisfied in any of the following ways:

- a. By the presentation of a diploma or certificate of graduation from the classical, scientific or equivalent course of a college or university.
- b. If the applicant for admission be under twenty-one years of age; by the presentation of certificates from a college or university showing the successful completion as a regular student of at least twelve year hours of college work. An applicant qualifying for admission under this requirement must be at least eighteen years of age.

c. If the applicant be twenty-one years of age or over; by the presentation of certificates from a university or college, or from an approved high school, or preparatory school, showing the successful completion of at least fifteen high school units, which are broadly equivalent to a four year high school course; or by passing college entrance examinations in enough subjects to make up, together with any certificates presented, the fifteen units required. A unit represents approximately one year of study of a major subject in a high school. Applicants presenting high school credits should have them certified on the blank forms which they may obtain from the Secretary of the Law School.

The fifteen units may be made up from the following subjects: (The Roman numerals indicate the year of study in the subject).

<i>Subjects</i>	<i>Units</i>
English I, II, III, IV.....	4
Latin, Elementary, I, II.....	2
Advanced, III, IV.....	2
Greek, Elementary, I, II.....	2
Advanced, III.....	1
French, Elementary, I, II.....	2
Advanced, III, IV.....	2
German, Elementary, I, II.....	2
Advanced, III, IV.....	2
Spanish, Elementary, I, II.....	2
History, Ancient.....	1
Mediaeval and Modern European.....	1
English.....	1
American.....	1
Mathematics	
Algebra, Elementary and Intermediate.....	1½
Advanced.....	½
Geometry, Plane.....	1
Solid.....	½
Plane Trigonometry.....	½
Science	
Physics.....	1
Chemistry.....	1
Physiography.....	1
Biology.....	1
Botany.....	½
Zoology.....	½
Political Economy.....	1
Civil Government.....	1
Commercial High School Subjects	
Accounting and Finance.....	1
Bookkeeping.....	1
Business Organization.....	1

<i>Subjects</i>	<i>Units</i>
Commercial Law.....	1
Commercial History.....	$\frac{1}{2}$
Commercial Geography.....	$\frac{1}{2}$
Government and Industrial Problems.....	1

II. *For the Degree of Master of Laws or Master of Patent Law.*—Candidates for these degrees must be at least twenty-one years of age and hold the degree of Bachelor of Laws from an institution substantially complying with the requirements of the Association of American Law Schools.

III. *As Special Students.*—Persons who can not qualify as candidates for a degree but are over twenty-one years of age and have had such educational training and practical experience as should enable them to pursue satisfactorily the study of law, may be admitted as special students by consent of the Dean.

ADVANCED STANDING

Students from other law schools which substantially comply with the requirements of the Association of American Law Schools will receive equivalent credit, not exceeding two years' work. Such students must have been qualified to enter this school when they began the study of law. The right is reserved to refuse such credit, in whole or part, save conditionally or after examination, and credit given may be withdrawn for poor work.

Applicants of whom examination may be required, can take the regular examinations or those held at the beginning of each academic year. (See examinations.)

No credit will be given for studies pursued in a college or high school before entering on the regular study of law, or in a law office.

SUBJECTS OF INSTRUCTION 1917-18

The course of instruction extends through a period of at least three years. For the degree of Bachelor of Laws twelve hours class work a week are necessary to complete the course in three years. Ten hours a week for a year in subjects not counted towards the Bachelor's degree, are required for the degree of Master of Laws or Master of Patent Law.

The subjects marked with an asterisk are prescribed for the degree of Bachelor of Laws. The student may elect the remainder of his subjects. Third-year students may elect subjects of the second year not previously studied. The selection of the subjects must be made in all cases within ten days after the beginning of the half-year.

Students devoting their whole time to the study of law may, with the permission of the Dean, take work not exceeding fifteen hours a week. Excess credits may be applied toward the degree of Master of

Laws or Master of Patent Law. Students with substantial outside employment may not register for more than twelve hours and are urged to carry less, and to devote more than three years to the course.

FIRST YEAR SUBJECTS

*COMMON LAW ACTIONS. *One hour first half year.* Introductory to study of law. Substantive and adjective law; courts; steps in an action; original writ; scope of formed actions; growth of new actions; development of law. *Sunderland's Cases on Common Law Pleading.* MR. FRASER.

*CONTRACTS. *Three hours.* Simple contracts: offer, duration and termination thereof; acceptance; consideration; contracts under seal, including thereunder formalities of execution, delivery and consideration; parties affected by contracts: beneficiaries; assignees; joint obligors and obligees; performance of contracts: express and implied conditions; impossibility. *Williston's Cases on Contracts.* MR. SCHREIBER.

CRIMINAL LAW AND PROCEDURE. *Three hours second half year.* Sources of the criminal law; intent and act; attempts; insanity as a defense; historical development of crimes and statutory changes. The arrest; bail; the grand jury; the indictment; trial; pleas; modification of early practice, and statutory changes. *Mikell's Cases on Criminal Law and Procedure.* MR. EARNEST.

*EQUITY I. *Two hours second half year.* The nature and underlying principles of equity; specific performance of affirmative and negative contracts; relief for and against third persons under contracts, especially under contracts relating to the use of land. *Ames' Cases on Equity Jurisdiction, Volume I.* MR. PARKS.

*PERSONAL PROPERTY. *Three hours first half year.* Distinction between personal and real property; nature of and rights based upon possession; some methods of acquiring title to chattels; liens and pledges; conversion. *Warren's Cases on Property.* MR. FERSON.

PRINCIPLES OF LEGAL LIABILITY. *Three hours first half year.* Nature of an act; causation of injury; proximity or remoteness of injury as affecting tort or criminal liability of the actor; effect of interposition of other causes including natural forces and acts of animals and human beings; excuses for acts causing injury including duty, public authority, defence of person and property and consent of injured person. *Beale's Cases on Legal Liability.*

*REAL PROPERTY I. *Two hours second half year.* Feudal tenure and incidents; estates in land; co-tenancy; future interests; seisin; creating and transferring estates; uses; incidents of ownership. *Warren's Cases on Property.* MR. FRASER.

* Prescribed Subjects.

*TORTS. *Two hours.* Negligence; duty of care of occupant of land toward those coming on it; trespass to the person, to real and personal property; contributory negligence; liability for fire or explosives; liability of owner of animals; deceit; libel and slander; malicious prosecution; unfair competition; strikes and lock-outs. *Case book to be announced.*

SECOND YEAR SUBJECTS

AGENCY. *Three hours first half year.* Requisites for creation of the agency relation; power of the agent to subject the principal to tort, criminal and contract liability to third persons; responsibility of the agent to third persons; liabilities in case of undisclosed principal; duties of principal and agent inter se; delegation of powers by the agent; ratification; termination of agency. *Wambaugh's Cases on Agency.* MR. FERSON.

*BILLS AND NOTES. *Three hours second half year.* Form and essential requisites of negotiable instruments; delivery; indorsement; liability of maker, acceptor, drawer, indorser, and of person transferring by delivery. *Colson's Huffcut's Cases on Negotiable Instruments.* MR. FERSON.

*COMMON LAW PLEADING. *Two hours second half year.* The declaration, necessary allegations, separate counts, joinder of causes; pleas, the common traverse, the special traverse, the general issues, confession and avoidance, estoppel, abatement; replications; amendment, aider and replender. *Sunderland's Cases on Common Law Pleading.* MR. FRASER.

DOMESTIC RELATIONS. *Two hours first half year.* Marriage, divorce and separation; personal and property rights and liabilities of husband and wife; parent and child; infancy. *Woodruff's Cases on Domestic Relations (2d ed.).* MR. VAN VLECK.

*EQUITY II. *Two hours first half year.* A continuation of the study of the rules regulating specific performance of contracts including the doctrine of equitable conversion, and the more important defenses to a specific performance such as the statute of frauds, fraud, hardship, misrepresentation and concealment. *Ames' Cases on Equity Jurisdiction, Volume I.* MR. PARKS.

EQUITY III. *Two hours second half year.* Bills of interpleader; bills of peace; bills Quia Timet; cloud on title; reformation and rescission; mistake of law and mistake of fact. *Ames' Cases on Equity Jurisdiction, Volume II.* JUSTICE STAFFORD.

*EVIDENCE. *Three hours half year.* Judicial notice; burden of proof and presumptions; admissions and confessions; character; opinion evidence; the hearsay rule and its exceptions; the privileges and dis-

*Prescribed Subjects.

qualifications of witnesses; the examination of witnesses; writings. *McKelvey on Evidence, Thayer's Cases on Evidence.* MR. PETER and JUDGE LATIMER.

INSURANCE. *Two hours first half year.* Marine, fire and life insurance; validity of the policy as affected by insurable interest; concealment; representation; warranty and other matters; rights of the insured and of the insurer under the policy; rights of assignees and beneficiaries. *Wambaugh's Cases on Insurance.*

MORTGAGES. *Two hours half year.* A study of the law of mortgages as it exists today in the United States and in England. The course aims to present the two existing theories as to mortgage security. It deals with both real estate and chattel mortgages, considering in detail the various forms of mortgages commonly in use in commercial communities together with the rights and liabilities arising thereunder. *Kirchwey's Cases on the Law of Mortgage.* MR. PARKS.

MUNICIPAL CORPORATIONS. *Two hours half year.* Summer session 1917, not given 1917-18. The nature and constitution of a municipal corporation; its powers including legislation, taxation, contracts, expenditures, police power, acquisition and management of property; its liabilities on contract and tort; remedies against a municipal corporation. *Beale's Cases on Municipal Corporations.* MR. PARKS.

PARTNERSHIP. *Two hours first half year.* Formation; title to partnership property; partnership liability; rights and duties of partners inter se; rights and remedies of creditors. *Ames' Case of Partnership.* JUSTICE STAFFORD.

QUASI-CONTRACTS. *Two hours second half year.* Obligations imposed by law which are enforceable by action of assumpsit. *Thurston's Cases on Quasi-Contracts.* MR. VAN VLECK.

REAL PROPERTY. *Two hours.* Rights in another's land; profits, easements, licenses, covenants running with the land; acquisition of Real Estate Inter Vivos; accretion, adverse possession, prescription, conveyancing, covenants for title, estoppel by deed: dedication. *Warren's Cases on Property and Gray's Cases on Property (2d Ed.) Volume III.* MR. FRASER.

SALES. *Three hours half year.* Subject matter of a sale of personal property; the passing of title as affected by the goods being specified or unspecified, the contract being executed or executory, the use of documents of title, and shipments c.o.d.; effect of fraud and of retention of possession; rights and remedies of the seller; rights and remedies of the buyer. *Williston's Cases on Sales (2d ed.).*

SURETYSHIP. *Two hours second half year.* Nature of the contract; kinds of suretyship; the statute of frauds; surety's defenses based on the absence, suspension or discharge of the primary obligation, or on conduct of the creditor prejudicial to the surety-rights; effect of notice of revocation by or death of the surety; subrogation; exoneration. *Ames' Cases on Suretyship.*

THIRD YEAR SUBJECTS

BANKRUPTCY. *One hour half year.* History of the law; jurisdiction and procedure in Courts of Bankruptcy and before Referees; effect upon civil litigation of bankruptcy proceedings; voidable preferences; jurisdiction over appeals, etc. **MR. BRANDENBURG.**

CONFLICT OF LAWS. *Two hours.* Jurisdiction; of law over persons and things; of courts, in rem, in personam, quasi in rem, and for divorce; creation and enforcement of foreign rights; limitations and enforcement of such rights; remedies, including rights of action and procedure; particular classes of rights, including personal rights, property rights, tort rights, contract rights; administration of estates. *Lorenzen's Cases on Conflict of Laws.* **MR. SCHREIBER.**

CONSTITUTIONAL LAW. *Two hours.* Legislative, executive and judicial powers; the relation of nation and states; District of Columbia and territories; the contract clause; ex post facto laws; fourteenth amendment; commerce clause, etc. *Wambaugh's Cases on Constitutional Law.* **MR. PARKS.**

***CORPORATIONS.** *Two hours.* The course aims to deal with all general principles of corporation law including the corporation's relations with the state, its promoters, its stockholders, and its creditors and the rights and obligations arising therefrom. *Warren's Cases on Corporations (2d ed.).* **MR. PARKS.**

EQUITY PLEADING AND PRACTICE. *One hour half year.* Parties; process; bills; demurrers; answers; pleas; disclaimers; cross-bills; replications; amendments; practice; injunctions; receivers. *Jones on Equity Pleading and Practice.* **MR. CLEPHANE.**

EXTRAORDINARY LEGAL REMEDIES. *One hour half year.* Habeas Corpus, mandamus, certiorari, quo warranto, prohibition, etc. *Robert's Cases on Extraordinary Legal Remedies.* **MR. CLEPHANE.**

FEDERAL PROCEDURE. *One hour half year.* Source of Federal jurisdiction; the law as administered by Federal Courts; jurisdiction and procedure; appellate jurisdiction of Circuit Court of Appeals and Supreme Court of the United States; practice in Court of Claims, and other Federal Courts. **MR. BRANDENBURG.**

LEGAL BIBLIOGRAPHY AND BRIEF MAKING. *One hour half year.* Where and how to find the law; how to use decisions and statutes; trial brief; appeal brief. **JUDGE LATIMER.**

LEGAL PROCEDURE AND ETHICS. *One hour half year.* Common law practice, and modern changes: motions for summary judgment, attachments, etc.; preparation and trial of case, including verdict, judgment, and execution. Appellate practice; legal ethics. Text to be announced. **MR. CLEPHANE.**

* Prescribed Subjects.

***MOOT COURT.** *Two hours.* Pleadings; trials before judge; trials before jury; extraordinary remedies; appellate work. There are three nisi prius courts, Equity, Circuit, and Criminal, and a Court of Appeals. The proceedings are conducted as in a regular court. Statements of fact are furnished the students who must determine the court in which to sue, frame their pleadings, and conduct the cases to a conclusion in accordance with the rules of actual practice. MESSRS. CLEPHANE, EARNEST AND JUDGE LATIMER.

ORGANIZATION AND MANAGEMENT OF CORPORATIONS. *One hour half year.* Promotion; selecting domicile; capitalization; charter; by-laws; meetings; stockholders; directors; officers; stock; bonds; voting trusts. *Clephane on the Organization and Management of Corporations.* MR. CLEPHANE.

PATENT LAW (SUBSTANTIVE) AND PATENT OFFICE PRACTICE. *Two hours.* Substantive Patent Law: Subjects of patents; invention; anticipation; statutory bars; utility; parties; reissues; disclaimers; extent of monopoly; state and federal regulation; transfers of title; licenses; construing claims; infringement. Patent Office Practice: Attorneys; application papers; examinations; amendments; division; double patenting; interferences; interference practice; appeals; abandonment; renewals; public use proceedings; issue. MR. SUTTON.

PATENT LAW PRACTICE. *Two hours.* History of Procedure; courts; suits in general; infringement suits, in law, in equity; preparation to file bill; essentials of bill; defenses, by answer, by motion to dismiss; interrogatories and discovery; trial, old rules, new rules; restraining orders, injunction; decrees; profits and damages; appellate procedure. The second half of year is devoted to the trial of patent cases. (*Students taking this subject are excused from the second half year in Moot Court.*) MR. RAMSEY.

PREPARATION OF LEGAL INSTRUMENTS. *One hour half year.* Contracts; deeds; acknowledgment and proof of deeds; mortgages and deeds of trust; leases; bills of sale; chattel mortgages; release of mortgages or deeds of trust; powers of attorney; assignments; wills. JUDGE LATIMER.

PUBLIC SERVICE COMPANIES AND THE INTERSTATE COMMERCE ACT. *Two hours.* An introductory consideration of the rights, liabilities and duties of public service companies in general, followed by a more minute study of the duties and obligations of carriers including those of interstate carriers as regulated by the Interstate Commerce Act. *Beale's Cases on Carriers (2d. Ed.); Wyman's Cases on Public Service Companies (2d. Ed.); Frankfurter's Cases Under the Interstate Commerce Act.* MR. SCHREIBER.

REAL PROPERTY III. *Three hours first half year.* Conditional estates; future interests; reversions and remainders; the Rule in Shelley's

* Prescribed Subjects.

Case; future uses; executory devises; determination of classes; powers; the rule against perpetuities. *Gray's Cases on Property* (2d ed.) Volume V. MR. FRASER.

TRUSTS. *Three hours second half year.* The nature of a trust as distinguished from debt, bailment, equitable charge and executorship; the requisites for the creation of a trust including trustee, cestui que trust, object, consideration and the effect of the Statute of Frauds; the nature of the cestui's interest; the transfer of trust property by act of the parties, by death, by marriage, by insolvency and acts of creditors; the duties of the trustee in the administration of his trust. *Ames' Cases on Trusts.* MR. FERSON.

WILLS AND ADMINISTRATION. *One hour half year.* History of wills; the right to make a will; what is disposable under a will; form, execution and attestation; revocation; who is entitled to administer upon an estate; distribution of an intestate's personalty; descent of realty; probate; letters of testamentary and of administration; duties of executors and administrators. MR. PETER.

INTERNATIONAL LAW. A course on International Law and Diplomacy offered by the Faculty of Arts and Sciences will be available to students in the Law School during 1917-18.

SUMMER SESSION

A limited number of subjects are offered at the Summer Session. The purpose of this session is to lighten or supplement the work of the regular session by enabling students to take subjects usually taken in the regular session. These subjects may also be availed of to shorten the period of study for a degree. The subjects offered in the summer session of 1917 (June 25 to August 4) are Personal Property, Principles of Legal Liability, Mortgages, Municipal Corporations, Partnership and Conflict of Laws. See announcement of the summer session.

LEGAL AID SOCIETY

The Legal Aid Society of the Law School is a student organization which gives legal advice without charge to persons financially unable to employ a lawyer. The members secure valuable practical experience which supplements their work in Moot Court. Membership is restricted to senior and post-graduate students of high scholarship. The work of the Society is supervised by a member of the faculty and an alumnus in active practice.

PUBLIC SPEAKING AND DEBATING

Excellent facilities for training in public speaking and parliamentary law are afforded by the Columbian Debating Society, which has been organized in the Law School, and meets weekly for debate. Mem-

bership in this Society is optional, but its work is encouraged by the Faculty, and students are advised to take part in its exercises.

Intercollegiate debates are also held. Membership on the teams which represent the University in these contests must be won in preliminary contests held for such purpose. These debates are conducted under the supervision of a committee of the University Faculty.

ATTENDANCE, RECITATIONS, EXAMINATIONS, GRADES AND ELIMINATION OF STUDENTS

Attendance and Recitations.—No student except by special permission of the Dean, will be allowed to take an examination in any subject unless he shall be regularly registered and have been in regular attendance upon the classes and have done all the work required in the course of instruction upon that subject. A student who is absent over ten per cent of the class hours in any subject will be denied credit unless his absences are excused by the Dean.

Regular Examinations.—Written examinations are held at the close of the first half-year in subjects which are then completed and at the close of the year in all other subjects. All students are required to take the regular examinations in the subjects pursued, unless excused by the Dean.

Grades.—At all examinations the grading of students will be indicated by the letters A, B, C, D, E, and F, representing respectively Excellent, Good, Satisfactory, Fair, Conditioned and Failed. A student receiving the grade of F (failed) in any subject will be required to repeat the class work. A student receiving the grade of E (conditioned) in any subject will be required to repeat the class work unless he pass the next regular examination for the removal of conditions with a grade of at least C.

Examinations for the Removal of Conditions.—Regular examinations for the removal of conditions are held during the first week of each academic year. A special examination for the removal of conditions is held at the end of each academic year for the benefit of candidates for the Bachelor's degree who have been conditioned in not more than four hours during the first half of their last year. Application for permission to take these examinations must be made in writing to the Secretary of the Law School not later than three days before the date for which the examination is scheduled.

Elimination of Students.—Students, regular or special, whose work is unsatisfactory are required to withdraw from the school. The instructors of the first year class are a committee to examine the students' records, with power to warn, to place on probation, and to refuse reregistration to any student whose work is deemed unsatisfactory. This committee examines the records of all students immediately after the mid-year examinations and again after the final examinations.

DEGREES

1. *Bachelor of Laws*.—The degree of Bachelor of Laws will be conferred upon regular students who have studied law for a period of at least three years and passed satisfactory examinations on required and elective subjects aggregating thirty-six year hours, and whose attendance and conduct have been satisfactory to the Faculty.

The degree of Bachelor of Laws with distinction will be awarded to students whose average percentage in all subjects is equivalent to the grade of A.

2. *Master of Laws*.—The degree of Master of Laws will be conferred upon students who have completed the work in subjects not counted for the Bachelor of Laws degree covering a minimum of ten hours a week with a grade of C or better and whose attendance and conduct have been satisfactory to the Faculty. The subject of International Law offered by the Faculty of Arts and Sciences may be counted towards this degree. The degree will not be conferred until one year after the receipt of the degree of Bachelor of Laws.

3. *Master of Patent Law*.—Students who have qualified for the degree of Master of Laws may elect instead the degree of Master of Patent Law provided that they have included in their course the subjects of Substantive Patent Law, Patent Law Practice and Federal Procedure. This degree will not be conferred until one year after receipt of the degree of Bachelor of Laws.

Candidates for degrees who have been absent from school for two successive years shall be entitled to continue the course only on such terms as the Faculty may prescribe at the time of reentering.

Combination Six-years Course for Degrees of Bachelor of Arts and
Bachelor of Laws

The University permits one year of professional work in the Law School to be counted towards an academic degree. The degree of Bachelor of Arts will be conferred on students who have completed three years of college work (45 units) including one of the four groups of subjects prescribed by Columbian College of the University, and the first year in the Law School; the degree of Bachelor of Laws on completing the whole six years of the combination course.

PRIZES

The John B. Larner Gold Medal.—A gold medal donated by Mr. John Bell Larner, Chairman of the Board of Trustees of the University, is awarded annually to that member of the graduating class who shall have attained the highest average grade in the entire course for the degree of Bachelor of Laws. Awarded 1915-16 to Roy Linney Deal.

The American Law Book Company Prize. A complete set of "Cyc" with its annual annotations to date, donated by The American Law Book Company, is awarded annually to that member of the graduating class who shall have attained the highest average grade in the entire

course for the degree of Bachelor of Laws. The recipient of this prize is also eligible to compete for one of three Corpus Juris scholarships, each of a value of \$500, for one year's post graduate work in law, offered by The American Law Book Company. Awarded 1915-16 to Roy Lanney Deal.

Herrick Prize.—A prize of twenty-five dollars cash, donated by Samuel Herrick, Esq., is awarded annually to that member of the graduating class excepting the winner of the gold medal, who shall have attained the highest average grade in the entire work of the third year. First award 1916-17.

Blackstone Institute Prize.—A set of Modern American Law, donated by the Blackstone Institute, is awarded annually to that member of the graduating class excepting the winners of The American Law Book Company and Herrick Prizes, who shall have attained the highest average grade in the entire work of the third year. Awarded 1915-16 to Orville R. Vaughn.

The Ordronaux Prize Scholarship.—A prize scholarship, known as "The Ordronaux Prize Scholarship," is awarded annually to that member of the second year class taking the regular course who shall have attained the highest average grade in the work of the second year. The recipient of this prize will be entitled to receive credit for tuition fees to the extent of ten hours work in his third year; library and diploma fees will remain payable. The award of this scholarship is purely personal and will not be commuted to a cash payment. The recipient of the scholarship must make use of it during the session next succeeding its award; otherwise it will be awarded to the person having the next highest grade. Awarded 1915-16 to David H. Cannon.

Phi Delta Phi Prize.—The Marshall Chapter of Phi Delta Phi Fraternity, which is the local chapter, offers a prize of twenty-five dollars cash, to be awarded annually to that member of the first year class taking the regular course who shall attain the highest average grade in the entire work of the year. Awarded in 1915-16 to Gerald V. Weikert.

Ellsworth Prize.—A prize of twenty-five dollars in gold, offered by Mr. Fritz von Briesen, called the "Ellsworth Prize," is awarded for the best work done by a student in the subject of Patent Law Practice. Awarded in 1915-16 to Robert C. Watson.

John Byrne and Company Prize.—A prize offered by John Byrne and Company of Washington, D. C., of four volumes of their Legal Classics is awarded each year to the student attaining the highest grade in Real Property III. Awarded in 1915-16 to Charles O. Marshall.

FEES

1. Matriculation fee (payable once).....	\$5
2. Library fee (payable annually one-half at the beginning of each half-year).....	3
3. Tuition fee per annum for each hour taken per week..	10
4. Fee for graduation.....	10

No registration will be accepted for less than a half-year, and no change in the courses undertaken at the time of registration will be made unless approved by the Dean. *Withdrawals during the half-year will be granted only on recommendation of the Dean and the approval of the President.*

PAYMENT OF FEES

Matriculation and library fees are due in advance. Tuition may be paid in eight monthly installments in advance, but will not be apportioned for part of a month. Students unable to pay their fees monthly in advance will be required to file an acceptable personal or corporate bond for \$200 as security for future payment. In every instance all indebtedness must be discharged on or before May 1 of the current school year. Fees are payable at the office of the Treasurer of the University, 2024 G Street, or of the Secretary of the Law School.

ROOMS, BOARD AND GENERAL EXPENSES

The following table gives an estimate of the expenses for a year of thirty-six weeks.

	LOW	AVERAGE	HIGH
Tuition and library fee.....	\$123.00	\$123.00	\$123.00
Room and board.....	200.00	250.00	300.00
Laundry.....	15.00	25.00	35.00
Text books and stationery.....	25.00	35.00	45.00
Totals.....	363.00	433.00	503.00

A register of boarding houses is kept by the Treasurer of the University.

STUDENTS' EMPLOYMENT BUREAU

The School conducts an Employment Bureau to assist students in finding work to aid in their support. Many out-of-town students take the United States Civil Service examinations in their various states and secure positions in the Government departments in Washington, where the hours of employment enable them to pursue the law course in the afternoon. Information concerning these examinations may be secured from the Civil Service Commission at Washington.

There are also opportunities for private employment which will help pay expenses, but the applicant must be on hand to take advantage of them. Prospective students should have the means of support for at least a half year to give them time to secure positions. The Bureau will assist prospective students but it is usually impossible to give definite aid until they come to the city.

For catalogues, application blanks and further information address

THE SECRETARY OF THE LAW SCHOOL,
George Washington University.

NATIONAL COLLEGE OF PHARMACY

OFFICE AND BUILDING

Building

1100 Massachusetts Avenue, N.W.

Dean and Chairman

President

Robert H. Woodworth

James H. Woodworth

Secretary

Treasurer

Robert H. Woodworth

James H. Woodworth

PART III

ASSOCIATED COLLEGES

NATIONAL COLLEGE OF PHARMACY

COLLEGE OF VETERINARY MEDICINE

Institutions in the District of Columbia organized as corporations under the Charter of the University, having separate financial foundations but educationally forming a part of the system of the University.

PART III

ASSOCIATED COURSES

NATIONAL COLLEGE OF INDIAN

COLLEGE OF VETERINARY MEDICINE

Established by the Board of Regents of the University of Wisconsin, the College of Veterinary Medicine is one of the largest and best equipped in the United States. It is located on the campus of the University of Wisconsin, and is one of the most beautiful and healthful places in the world. The college is one of the most important and useful in the United States, and is one of the most beautiful and healthful places in the world.

NATIONAL COLLEGE OF PHARMACY

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CHARLES HERBERT STOCKTON, LL.D.

Dean and Chairman

HENRY E. KALUSOWSKI

Vice-Chairman

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HENRY BUSSEY FLOYD

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HERBERT CLIFTON EASTERDAY

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(with year of expiration of term of office)

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FACULTY OF THE NATIONAL COLLEGE OF PHARMACY

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Professor of Analytical Chemistry
BURTON JAMES HOWARD, B.S..... Professor of Microscopy
HENRY BUSSEY FLOYD, Phar.D.... Professor of Mercantile Pharmacy
ALEXANDER MUNCASTER, Phar.D., LL.B., LL.M.,
Professor of Pharmaceutical Jurisprudence

ASSISTANTS

..... Assistant to the Professor of Pharmacy
V. ALOIS BURGHER, Phar.D.,
Assistant to the Professor of Analytical Chemistry

CALENDAR

1917

September 13, *Thursday*—Admission Examination, 1.00 p.m., Lecture Room of the College.

September 19, *Wednesday*—Forty-sixth Annual Session begins.

November 29, *Thursday*—Thanksgiving Day, a holiday.

1918

Recess from December 22, 1917, to January 1, 1918, both dates inclusive.

January 14-19, Examinations, close of first semester.
(inclusive)

January 21, *Monday*—Second semester begins.

February 22, *Friday*—A holiday.

May 6-11, Examinations, close of second semester.
(inclusive)

June 5, *Wednesday*—Commencement.

GENERAL STATEMENT

The National College of Pharmacy, the outgrowth of the Columbian Pharmaceutical Association, organized in April, 1871, chartered under the provisions of an act of Congress in 1872, opened its doors to students November 11 of that year. In February, 1906, it became a member of the educational system of George Washington University, under the charter of the University granted by Congress March 3, 1905, providing for the organization of colleges. The President of the University is *ex-officio* president of the National College of Pharmacy.

The work of the College embraces courses in chemistry, botany, physiology, materia medica and toxicology, pharmacy and pharmaceutical laboratory work, analytical chemistry, microscopy, mercantile pharmacy, and pharmaceutical jurisprudence. Three years are required for the completion of the prescribed course.

The College building is centrally located on I street northwest between Eighth and Ninth streets. It is easily reached by the principal street car lines of the city.

Preliminary Education and Examination

The College requires of its matriculants a knowledge of the branches usually taught in the public schools of Washington, D. C., to the extent of four years in the high schools or its equivalent, and they must be at least seventeen years of age. Evidence of this may be shown by certificates from reputable teachers or by the results of an examination to be held at the College, at one o'clock p.m., THURSDAY, September 13, 1917.

SPECIAL COURSES

Students may select one or more of the branches taught and attend the lectures and laboratory work during the time set apart for such study.

Students taking single tickets are not entitled to take the examinations for the degree conferred by the College.

SEMESTERS

The Annual Course is divided into two semesters, each of sixteen weeks. Fifteen weeks of each semester is given over to lecture, laboratory, and other instruction, and the sixteenth week is devoted to final examinations in the subject matter covered in each course during that semester.

THE DEGREE

The degree conferred is *Doctor of Pharmacy*.

QUALIFICATIONS FOR THE DEGREE

1. The student shall have attended three annual courses in Pharmacy; three annual courses in Materia Medica, Botany, Physiology, and Toxicology; three annual courses in General Chemistry and Physics; three annual courses in Analytical Chemistry; two annual courses in Microscopy; one annual course in Mercantile Pharmacy, and one-half annual course in Pharmaceutical Jurisprudence.

2. He shall have passed a satisfactory examination in each of the branches taught.

3. He must be recommended by the Board of Examiners.

MATERIA MEDICA, BOTANY, PHYSIOLOGY AND TOXICOLOGY

Freshman Course

Introduction to the study of Botany, Evolution, Properties of Living organisms, Growth of Plants, Internal Structure and Physiology of plants will receive proper attention, followed by a description of the Natural and Artificial systems of Botany.

Following will be a course of instruction in Animal Physiology, to include Body Tissues, Bone, Fibre, Cartilage, Muscle, Epithelium, Serous Tissue, Nerve Tissue, Blood and the Circulation.

Junior Course

Causes of disease, Trauma, Poisons introduced from without, the Bacteria, Immunity.

General Principles of Therapeutics, Rules for Dosage, Standardization of Drugs, to be followed in their regular order, the study of Drugs, classified according to their general or local effects.

Senior Course

General review of the Junior year work and continuation of the study of drugs, to include the coal tar group, toxins and anti-toxins vaccines Bacterins. Use of drugs hypodermically. This course to conclude with a special course of instruction in Toxicology.

PHARMACY

Freshman Course

This course is given to the study of the various pharmaceutical processes and operations. Following in the order named are lectures on metrology, heat, thermometry, evaporation, distillation, fusion, sublimation, calcination, granulation, comminution, solution, sterilization, filtration, clarification, decoloration, precipitation, crystallization, and extraction, during which the various methods used to bring about the desired results will be illustrated.

Junior Course

During a part of this course the time is given to the application of the processes considered during the Freshman year to pharmacopœial preparations, and such modifications as adapt them to special uses.

The latter part of this course is taken up with the study of official preparations obtained from the elementary bodies beginning with bromine, chlorine, iodine, phosphorus, and sulphur, following by carbon, boron, silicon, the inorganic acids, potassium, sodium, lithium, ammonium, magnesium, calcium, barium, zinc, aluminum, cerium, cadmium, manganese, iron, chromium, lead, silver, copper, mercury; antimony, arsenic, bismuth, and gold.

Senior Course

The time during this course is mainly given to the study of compounds chiefly derived from organic matter, and products obtained therefrom, amylaceous and saccharine substances; glucosides and alkaloids, volatile oils and animal products used in pharmacy, vegetable oils, soaps, and products from resins.

ANALYTICAL CHEMISTRY

The instruction in this Department is intended to present the chemical tests of the United States Pharmacopœia, with methods for the identification of substances and for the detection of impurities; to instruct in the methods of assaying and the use of volumetric solutions, and to enable students to analyze any ordinary mixture of inorganic material.

For the purpose of carrying out the work of this Department a large, well-equipped laboratory is provided with all the usual water and gas facilities, and has recently been wired and installed with electric apparatus whereby electro-chemical methods of analysis can be taught and the application of the electric current to the preparation of chemicals by the methods of electro-chemistry can be illustrated before the students. These and other facilities afford students exceptional opportunities to become familiar with the fundamental principles of the science of chemistry.

The first year is devoted to experimental work so arranged as to supplement the lectures in General Chemistry.

The second year covers a systematic course in qualitative analysis in connection with the test of the United States Pharmacopœia.

The third year is devoted to volumetric analysis by means of the standard solutions of the Pharmacopœia.

GENERAL CHEMISTRY AND PHYSICS

Inasmuch as the subjects of Analytical Chemistry and Pharmacy are fully provided for in other courses, these lectures are devoted more closely to the fundamental principles and classification which must underlie a thorough and systematic knowledge of Chemistry. Owing to the intimate connection existing between Chemistry and several branches of Physics, a number of lectures illustrating the more important laws and principles of some of these branches precedes the regular course in Chemistry, and others on these subjects with which a prior acquaintance is less important follow after the student has acquired some knowledge of chemical changes. During the first half of the second year Physics and the non-metallic elements receive consideration, followed during the remainder of the second and a portion of the third year by the metals. The greater portion of the third year is devoted to the exposition of the more important facts, principles, and theories of Organic Chemistry.

MICROSCOPY

The course of Microscopy gives instruction in the use of the compound microscope as an aid in the study and identification of drugs, and requires full attendance from Junior and Senior students.

The work includes both lectures and laboratory courses, and consists in the examination of plant tissue as illustrated in various vegetable substances most familiar to pharmacists. Special attention is given to the structural characteristics by which one drug can be distinguished from another as well as to the detection and identification of the most common adulterants used.

MERCANTILE PHARMACY

Attendance upon this course, which deals with business methods, accounting, and commercial law, is required throughout the entire Junior year.

PHARMACEUTICAL JURISPRUDENCE

In this course, given one-half the Senior year, the laws peculiarly applicable to the pharmacist, are dealt with.

FEEs

Matriculation, payable but once.....	\$5.00
Tickets for the full year's instruction, Freshman.....	90.00
Tickets for the full year's instruction, Junior.....	100.00

Tickets for the full year's instruction, Senior.....	\$100.00
Single tickets, Pharmacy, each year.....	30.00
Single tickets, General Chemistry and Physics, each year....	20.00
Single tickets, Analytical Chemistry, each year.....	25.00
Single tickets, Physiology and Botany, Freshman Course.....	20.00
Single tickets, Botany and Materia Medica, Junior Course..	20.00
Single tickets, Materia Medica and Toxicology, Senior Course	20.00
Single tickets, Microscopy, each year.....	20.00
Single tickets, Mercantile Pharmacy, one year.....	20.00
Single tickets, Pharmaceutical Jurisprudence, one-half year..	10.00
Diploma Fee.....	10.00

For further information consult the Dean, DR. HENRY E. KALUSOWSKI,
808 I Street.

COLLEGE OF VETERINARY MEDICINE

BOARD OF TRUSTEES

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FACULTY

CHARLES HERBERT STOCKTON, LL.D.... PRESIDENT OF THE UNIVERSITY
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TUNIS HICKS, D.V.M.....Assistant Professor of Veterinary Anatomy
HENRY IGNACIUS QUINN, LL.M...Lecturer on Veterinary Jurisprudence
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Instructor in Dairy Inspection, Hygiene and Obstetrics
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Instructor in Veterinary Materia Medica and Therapeutics
WILLIAM HENRY O'HARA, D.V.M.....Instructor in Physiology
JOHN JAMES ESSEX, D.V.M...Instructor in Horseshoeing and Dentistry
CARL SNYDER, Phar.G.... Instructor in Pharmacy and Botany
HARRY THOMAS CLAYTON, D.V.M.....Instructor in Anatomy
JESSE HAYES, D.V.M.....Instructor in Meat Inspection
ALDEN HAZELTINE RUSSELL, B.Sc.,
Instructor in Breeds and Breeding, Feeds and Feeding, and Zoology
CHARLES LOCKWOOD, D.V.S.....Assistant in Surgery

REQUIREMENTS FOR ADMISSION

In accordance with the regulations of the Bureau of Animal Industry, Department of Agriculture, regarding requirements for admission to accredited veterinary colleges, beginning with the session 1916-1917, the requirements for admission to the College of Veterinary Medicine, George Washington University will be as follows:

An applicant having a diploma from a recognized college or a normal or high school, or a first-grade teacher's certificate, will be admitted without examination.

Applicants not having the above qualifications will be required to submit to an examination equivalent to the first grade civil service examination as shown in the Manual of Examinations published by the United States Civil Service Commission, Washington, D. C. This examination will comprise tests in the following subjects:

Spelling: Twenty words of more than average difficulty to be dictated by the examiner. All words should be commenced with capital letters. The examiner pronounces each word and gives definition of same.

Arithmetic: Fundamental rules, fractions, percentage, interest, discount, analysis, and statement of simple accounts. In solving the problems all the figures and mathematical signs necessary for the solution of each problem will be given.

Penmanship: The rating on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercises of the fourth subject—report writing.

Report Writing: Test in writing in letter form, not more than 200 words in length, an orderly, concise, and grammatical statement of the essential facts included in a given statement of 400 or 500 words.

Copying and Correcting Manuscript: Test in making a smooth and corrected copy of a draft of manuscript which includes erasures, misspelled words, errors in syntax, etc.

Geography and Civil Government of the United States: Test in geographical boundaries of the various states, names and locations of rivers and large bodies of water and of various cities of the United States. General questions on civil government of the United States, the constitution, and names of leading statesmen.

Applicants for admission who have successfully passed a first grade civil service examination conducted by the United States Civil Service Commission, in which all of the subjects outlined above were covered, will, on satisfactory proof to that effect, be admitted without further examination.

Applicants who have successfully passed a first grade civil service examination in which any of the subjects outlined above were not included will be required to submit to examination only in such subjects as were not included in that examination. For example, applicants who have successfully passed the Stenographer or Typewriter examination will be required to submit to examination only in the subjects of Spelling, and Geography and Civil Government of the United States.

ADMISSION OF STUDENTS FROM OTHER SCHOOLS

Students of other recognized and approved veterinary schools may be admitted to this school as follows:

Those qualified to enter the second year of such a school may be admitted to the second year of this school, those qualified to enter the third year of such a school to the third year of this school; those qualified to enter the fourth year of such a school to the fourth year class of this school; provided, however, that the subjects pursued by the applicants in their previous year or years are reasonably equivalent to those required in the same year or years in this school, and that the requirements for advancement from class to class are the equivalent of those in this school. Applicants may be required to submit to examination in all the subjects pursued by the previous class of this school.

EVIDENCE OF ATTENDANCE

At the end of the college year each student will receive a written statement giving the length of time spent in each study during the session and the grade received therein, provided all financial requirements of the college have been complied with. A similar statement will be demanded of students of other veterinary colleges when application is made for entry with advanced standing in this college.

ADVANCED STANDING

Advanced standing will be given for degrees in Medicine, Dentistry, or Veterinary Medicine.

Students holding degrees in Arts, Science, Philosophy, or Agriculture who in the course of study for their degrees have pursued studies in chemistry, physiology, anatomy, histology, bacteriology, or pathology, equivalent to the courses in these subjects in this college, may upon satisfactory evidence of their proficiency be credited with such studies; provided, however, that such students shall devote two years' study in veterinary medicine, the last year of which is passed in this College.

SPECIAL STUDENTS

Students, approved by the Dean, not candidates for the degree of Doctor of Veterinary Medicine, may be admitted without examination to pursue any course they may elect. Such courses cannot, however, be subsequently considered as time spent in the course for the degree of Doctor of Veterinary Medicine. Nor can such students enter upon the regular veterinary course without complying with all the regular requirements for admission.

CLASSIFICATION OF STUDENTS

Students are divided into four classes, according to their proficiency and the time spent, viz., first, second, third and fourth year. Students cannot advance to a higher class with more than one major and one minor condition. Students failing in any subject or subjects may be permitted at the next examination period a re-examination in the subjects in which they fail. The Faculty may dismiss any student from the College, if in its judgment such student be deemed an unsuitable person, intellectually or otherwise, for the profession of veterinary medicine.

ORDER OF INSTRUCTION

The subjects studied in each year are shown in the following table:

FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR
Anatomy	Anatomy	Theory and	Theory and
Histology	Physiological and	Practice	Practice
Embryology	Laboratory	Bacteriology	Small Animal
Chemistry and	Chemistry	Pathology and	Practice
Physics	Pharmacy	Laboratory	Surgery and
Botany and Tox-	Physiology	Diagnosis	Restraint
icology	Hygiene	Surgery and	Therapeutics
Zoology	Breeds and	Restraint	Obstetrics
Horseshoeing	Breeding	Soundness and	Veterinary
Dentistry	Dairy Inspection	Lameness	Jurispru-
	Feeds and Feed-	Clinics	dence
	ing		Parasitology
	Materia Medica		Control of
	Clinics		Infective
			Diseases
			Meat Inspec-
			tion and P.
			M. Exami-
			nation
			Clinics

For lecture, laboratory and dissecting hours a schedule card is furnished. 80 per cent of attendance is required in all courses.

In addition to the regularly scheduled clinics, 100 hours additional daylight clinical work in the veterinary and canine hospitals connected with the College and at abattoirs and stock and dairy farms is required each year of second, third and fourth year students.

ANATOMY

TUNIS HICKS, D.V.M. Assistant Professor
 HARRY THOMAS CLAYTON, D.V.M. Instructor

The instruction in Anatomy is given in a series of lectures, demonstrations, recitations, and laboratory work, the latter being the most important.

The lectures are intended to present the general anatomical features of the horse and other domestic animals, and to point out the anatomical relations of the organs and parts of the body most subject to surgical operations.

The horse is used as the type subject in dissection, and every student is required to dissect all the parts of the horse, and such other of the domesticated animals, including the ox, sheep, swine, dog and cat, as may prove most expedient.

The laboratory is well supplied with all of the parts of the skeleton of the horse, and portions of the skeleton of various other domestic animals, for the work in osteology. Ample material is always available for the dissection of joints, muscles, viscera, and the vascular and nervous systems. The laboratory is also provided with a complete model of the horse, showing the relation of all the organs and parts of the body, for demonstrations in general and surgical anatomy. The course extends throughout the first and second years.

Text-book.—Sisson's Veterinary Anatomy.

HISTOLOGY AND EMBRYOLOGY

OSCAR BENWOOD HUNTER, M.D. Professor

These subjects are taught by a series of carefully correlated lectures, recitations, quizzes and demonstrations, and will include such instruction in microscopy as a working knowledge of the use of the simple and compound microscope and accessories, supplemented by the fundamental laws of optics; the method of preparing tissues for microscopic examination, and the technique of mounting.

Comparative histology will deal with the minute structure of the tissues and organs of various animals, including man. In addition to the microscopical demonstrations, lantern demonstrations will also be given.

Embryology under this head will present the salient features of the anatomy and physiology of the fecundated ovule up to the time of birth.

Text-book.—Piersoll.

PHYSIOLOGY

WILLIAM HENRY O'HARA, D.V.M. Instructor

The course in Physiology consists of lectures, demonstrations and laboratory exercises. The lectures cover all the important facts and theories regarding bodily functions of the animal, and are illustrated by diagrams, models and prepared specimens.

In the laboratory each student performs a number of experiments on blood, on the circulation, on digestion, on the general functions of nerves and muscles, and on the special senses of animals.

Special emphasis is laid on the relation of normal physiological functions to the disturbances of function in disease and upon the physiological action of drugs.

It is intended in this way to bring the work of the Physiological Laboratory and other exercises into closer relation with the succeeding course in Pathology, Therapeutics and General Veterinary Medicine.

Text-book.—Smith's Veterinary Physiology.

GENERAL CHEMISTRY

First Year

CHARLES EDWARD MUNROE, Ph.D., LL.D.....Professor
OTIS DOW SWETT, S.M.....Assistant Professor

General Chemistry.—A series of illustrated lectures, accompanied by recitations and exercises on theoretical, inorganic, organic and technical Chemistry. The student is required to take notes on these lectures, which he must submit for examination.

Laboratory Practice.—A laboratory course for the study of the principles of chemistry which is designed to instruct students in the methods of conducting chemical experiments.

Text-book.—Holland's Medical Chemistry and Toxicology.

PHYSIOLOGICAL CHEMISTRY

Second Year

FRANK ADELBERT HORNADAY, S.B., M.D.....Professor

This course will consist of lectures and laboratory instruction, and includes the study of water from a sanitary standpoint; the chemical examination of milk, the tissues and fluids of the body; the isolation of the digestive enzymes, and a study of their action in vitro.

MATERIA MEDICA AND THERAPEUTICS

DAVID EASTBURN BUCKINGHAM, V.M.D.....Professor
HARRY ALOYSIUS LOCHBOEHLER, D.V.M.....Instructor

Second Year

(1) Lectures upon and demonstrations of drugs and their preparations and doses used in veterinary practice will be followed by recitations to assist in memorizing. (2) Practical exercises will be given in prescription writing.

Fourth Year

(1) Systematic lectures upon the physiological action of drugs and their effects in disease, their therapeutic uses, and their methods of administration to animals. (2) Prescription writing, in which students are given hypothetical cases for which to prescribe. (3) The therapeutic application of various agencies not drugs.

Text-book.—Winslow's Veterinary Materia Medica and Therapeutics.

PRACTICE OF VETERINARY MEDICINE

JOHN POLLARD TURNER, V.M.D.....Professor

This subject is taught by a series of lectures, recitations, quizzes and clinics extending over a period of two years.

The student is personally drilled in all the various diseases and doctrines taught in a well regulated veterinary school.

Especial attention is given to practical work whereby the student can become proficient in the diagnosis and treatment of disease.

Visits are required to the three veterinary hospitals in connection with the University, and personal attention is given students in visits to various large stables in and adjacent to the city of Washington, where practical instruction is given the third and fourth year classes in physical diagnosis among horses, cows and hogs.

Equal attention is given diseases of cattle as of horses, whereby the student is properly fitted for either city or country practice.

Diseases of food-producing animals will be thoroughly explained.

Text-books.—Freidberger and Froehner's Pathology and Therapeutics of Domestic Animals; Hutyra and Marek Special Pathology and Therapeutics of Domestic Animals; Malkmus' Clinical Diagnosis; Glass' translation of Muller's Diseases of the Dog.

VETERINARY SURGERY AND RESTRAINT

JOHN LOCKWOOD, D.V.S.....Professor

CHARLES LOCKWOOD, D.V.S.....Instructor

The instruction given in this course embraces systematic lectures upon the principles and practice of Veterinary Surgery.

The different surgical operations are illustrated in clinic and upon the cadaver, and the uses of all the important surgical instruments and appliances are demonstrated in the same manner. The use of anesthetics, the practice of dental surgery, and castration on all domestic animals will receive special attention.

Text-books.—Moeller's Operative Veterinary Surgery; Fleming's Operative Veterinary Surgery; Hobday's Canine and Feline Surgery; Williams' Principles and Practice of Veterinary Surgery; Pfeiffer and Williams' Surgical Operations; White's Restraint of Domestic Animals; Merillat's Surgery.

BACTERIOLOGY AND PATHOLOGY

MARCUS WARD LYON, JR., M.D., Ph.D. Professor
 JAMES ROBERT SCOTT, M.D. Instructor

Bacteriology.—This subject comprises laboratory instruction in the fundamental principles and methods of pure bacteriology. Thorough drilling is given in the preparation of culture media, in disinfection, sterilization, staining and the general methods of bacterial differentiation. Following this course, which is given daily during October, the further study of bacteria is taken up in connection with and as applied to pathology.

Pathology comprises the laboratory study of the general and special phenomena of inflammation, and a detailed study of the pathological processes found in the various diseases. The relation of bacterial and other microphytic life to disease processes and results is studied coincidentally and constitutes a course in applied bacteriology. In connection with the laboratory work a course of lectures and demonstrations is given upon immunity, serum therapy and protective inoculation.

Surgical Pathology.—A special course in the healing of wounds and injuries and in the pathology of surgical operations is given in the third and fourth years.

Clinical Microscopy.—Comprising the study of the various tissues, fluids, ejecta, and dejecta, with a view to diagnosis of diseased conditions, is given in the first part of the third year.

Text-book.—Delafield and Prudden's Pathology, Hiss and Zinsser's Text-book on Bacteriology.

PATHOLOGY, TREATMENT AND CONTROL OF INFECTIOUS DISEASES

SAMUEL SUTHERLAND BUCKLEY, M.S., D.V.S. Professor

The lectures in this course will be given with reference to the etiology, pathogenesis, symptoms, diagnosis, treatment and prevention of the infectious diseases. Local and national regulations and measures governing the control and eradication of diseases, with particular reference to the work of the United States Government in the eradication of infectious diseases will be clearly explained.

Text-books.—Hutyra and Marek, Special Pathology and Therapeutics of Domestic Animals, Volume I, translated by Mohler, Eichhorn and Fisher; Moore's The Pathology of Infectious Diseases of Animals; James Laws's Veterinary Medicine, Volume IV, third revised edition.

BREEDS AND BREEDING

ALDEN HAZELTINE RUSSELL, B.Sc. Instructor

The course covers the chief phases of live-stock work, including the judging, breeding and management of horses, cattle, sheep and swine.

It is introduced by discussions upon the origin of animal life, natural selections, the origin of breeds and the domestication of animals, as well as the principles of breeding, heredity, environment, selection, individual conformation and the history and development of breeds.

Students obtain practical experience in the judging of the various breeds and classes of animals, by visits to neighboring farms.

Text-books.—Plumb's Types and Breeds of Farm Animals; Goubaux and Barrier's Exterior of the Horse.

FEEDS AND FEEDING

ALDEN HAZELTINE RUSSELL, B.Sc.....Instructor

This course will cover the principles of animal nutrition, balanced rations, practical feeding and the economical production of beef, milk, mutton and pork.

Text-book.—Henry's Feeds and Feeding.

HYGIENE AND DAIRY INSPECTION

CHAUNCEY MERLE GRUBB, D.V.M.....Instructor

The course in Milk hygiene will be given by lectures and demonstrations throughout the second year. The students will be taught the theory of milk secretion, the composition and characteristics of milk, the various methods of testing, together with the chemistry and bacteriology of milk, abnormal forms of milk, and diseases transmissible through milk to bovines and human beings, with a study of the epidemics produced. Sanitary stabling and the sanitary handling of milk will be considered, showing the construction of various types of dairy barns and dairy houses, the manner of milking, care of the milk and the varieties and care of dairy utensils; also the study of sterilization and pasteurization.

Text-books.—Jensen's Milk Hygiene, translated by Pearson. Bulletin No. 56, Marine-Hospital Service, Milk and its Relation to the Public Health.

MEAT INSPECTION AND POST-MORTEM EXAMINATION

JESSE HAYES, D.V.M.....Instructor

The subject involves the control of food animals destined for slaughter; their ante-mortem and post-mortem inspection with reference to the diseases which affect the wholesomeness of the meat. Further, the preparation of meat-food products, the various methods of preservation of meat and the conditions to which the meat and meat products are subject due to the different infections and contaminations. The appli-

cation of the Regulations of the Department of Agriculture in connection with the judgment of carcasses, meats and meat-food products.

Practical demonstrations in meat inspection and judgment will be given at the local abattoirs.

Post-mortem examinations and demonstrations of morbid anatomy will be given, as opportunities arise, in the various hospital and ambulatory clinics in and about Washington, D. C. Special consideration will be given to discussion of gross pathological changes, procedure of technic, preparation of pathological specimens for museum purposes and methods of securing and forwarding material for diagnosis. Students will be required to write complete protocols of each case.

Text-book.—Mohler and Eichhorn's translation of Edelman's Meat Hygiene, second revised edition.

ZOOLOGY

ALDEN HAZELTINE RUSSELL, B.Sc.....Instructor

Zoology.—In this course a brief survey of the general principles of zoology is undertaken. The history of zoology, the classification of the animal kingdom, the structure of typical forms in the different Phyla and the distribution of animals on the face of the earth will be considered. The course is designed to familiarize the student with the main facts and theories of zoology.

Parasitology.—This course is designed to give the student a practical knowledge of animal parasites. The nature of parasitism, the classification of parasites and the structure and life histories of those parasites of importance from the standpoint of meat inspection and veterinary practice are considered. By the use of fresh and preserved materials the student is given a first-hand knowledge of the more important parasites. Due consideration is given to the diseases caused by animal parasites, their prophylaxis, treatment and eradication.

VETERINARY OBSTETRICS

CHAUNCEY MERLE GRUBB, D.V.M.....Instructor

The course of instruction will consist of lectures on obstetrical anatomy, foetal development, presentations and the diseases incidental to the periods of gestation and parturition.

The lectures will be illustrated by diagrams, models, natural preparations, and other appliances for demonstrating the principles taught.

Text-book.—Fleming, Dalrymple, Williams.

SHOEING AND BALANCING

JOHN JAMES ESSEX, D.V.M.....Instructor

The course is intended to familiarize students with the principles of shoeing, the examination of the feet and proper use of special shoes for relief of defects or disease.

Text-book.—Lungwitz on Horseshoeing, Adams' translation.

DENTISTRY

JOHN JAMES ESSEX, D.V.M. Instructor

The course in dentistry includes lectures on the development of the teeth of the domesticated animals, the determination of age, irregularities of the teeth, oral surgery and dental clinics.

Text-book.—Merillats' Animal Dentistry and Diseases of the Mouth.

BOTANY AND TOXICOLOGY

CARL SNYDER, Phar.D. Instructor

The course in botany embraces the general relation of plants, vegetative organs, their functions, reproductive organs and nutrition.

Ecological factors, diversity of plant life, evolution of sex, differentiation of tissues, and plant physiology will be fully considered.

PHARMACY

CARL SNYDER, Phar.D. Instructor

Pharmacy includes the history and nomenclature of the U. S. Pharmacopoeia, metrology, metric system and common system of weights and measures. Principles employed in making various preparations, classification of official preparations, incompatibility.

Supplemented by laboratory work in which students are required to compound formulae of ointments, lotions, draughts and various preparations, official and extemporaneous.

VETERINARY JURISPRUDENCE

HENRY IGNACIUS QUINN, LL.M. Instructor

A series of lectures upon the Law of Animals, including suggestions relating to the conduct of veterinarians as experts in the trial of cases involving the above law.

SPECIAL LECTURES

In addition to the foregoing courses of lectures, a number of government experts have been engaged to give lectures on subjects of special interest to the veterinarian.

These men are specialists in their lines of scientific research.

EXAMINATIONS AND DEGREE

Examinations are held at the end of the course in each subject. Students failing in examinations will be permitted to be re-examined at the next regular examination period. Students will not be admitted to examination unless they have paid all fees due at the time or present a permit signed by the Dean. In order to avail themselves of the privilege of re-examination, students must file their written applications with the Dean not later than fifteen days before the date set for the examinations.

Proficiency is marked upon a scale of 100. A grade of 70 is required to pass an examination. Students who fail to appear at the regular examination period will be charged a fee of \$3 for a special examination in each subject.

If a satisfactory examination is passed, the student receives the Degree of Doctor of Veterinary Medicine (D.V.M.).

PRIZES

1. Prize for student attaining highest average for whole course.
2. Prize for best work in operative surgery for senior student.
3. Prize for best anatomical specimen prepared by a Sophomore student.
4. Prize for best anatomical specimen prepared by a Freshman student.

In addition to the foregoing, students attaining a general average of 90 per cent or over for the entire course will be graduated "With Distinction," the same to be inscribed upon their diploma.

THE VETERINARY LIBRARY

This library is located in the Administration Building of the College of Veterinary Medicine, and is open from 8 a.m. to 10 p.m.

It contains, in addition to volumes on veterinary medical subjects, the current veterinary journals.

Provision is made in the annual library fee charged every student to add to it as published, the important new works on veterinary medicine.

OTHER LIBRARIES

Washington contains the Library of the Surgeon-General's Office of the United States Army, the most complete medical library in the world. This library, as all other libraries of the government, is open to the public between the hours of 9 a.m. and 4.30 p.m. There is also the Library of Congress and the many excellent libraries of the various other government offices, in addition to the University Medical Library.

FEES AND CONTINGENT EXPENSES

1. Matriculation fee (payable only on first entry into the University)	\$5
2. Association fee per annum	2
3. Tuition fee per annum.....	100
4. Fee for graduation.....	10

A deposit of \$5 per annum is required of every student to cover loss, breakage or damage to the property of the school. The amount of such deposit paid in excess of the breakage will be returned.

No change will be made in the fees fixed at registration except in case of withdrawal, and then only upon notice in due form, and from the end of the current quarter-session, when such withdrawal shall be approved. Applications for the granting of a withdrawal should be made on the prescribed form to be obtained from the Registrar, and will be received only at the end of a quarter-session.

Students are urged to purchase their own microscopes, but those who do not care to do so may rent them from the University at the following rates:

Microscope for Histological Laboratory use.....	\$5
Microscope for Bacteriological, Pathological and Clinical Microscopy Laboratory use.....	6

PAYMENT OF FEES

All fees are to be paid to the clerk. Tuition fees are payable quarterly, in advance. Matriculation, Association and laboratory fees are payable in full, in advance.

STUDENT EMPLOYMENT

The College of Veterinary Medicine will aid students, especially those coming from a distance, to obtain suitable employment as a means of defraying a part or all of their expenses while in pursuit of their college course. Opportunities for such employment in Washington are exceptionally good. The many Departments of Government, the Library of Congress, Congressmen's secretaryships, law offices, contractors' and architects' offices, journalism, stenography, etc., offer a large number of positions of the most diverse kinds. While the College must not be understood as in any sense engaging to find employment for prospective students, in a great many cases important assistance can be rendered duly qualified applicants, if the fact of their desire to obtain employment is known. Applicants are particularly cautioned against coming to the University, intending to depend upon outside employment for support without being provided with funds sufficient to meet the

expenses of at least the first half-year. Communications should be addressed to

THE DEAN,
College of Veterinary Medicine,
George Washington University,
2113-2115 Fourteenth St. N.W., Washington, D.C.

BOARD AND ROOMS

A register of approved boarding-houses is kept by the clerk. Accommodations cost from \$20 to \$40 a month.

For further information apply to

DAVID E. BUCKINGHAM, Dean,
George Washington University,
College of Veterinary Medicine,

Nos. 2113-2115 Fourteenth St. N. W.

Washington, D. C.

STUDENTS IN THE UNIVERSITY

DEGREES CONFERRED, MISCELLANEA

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1911

THE UNIVERSITY OF CHICAGO

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THE UNIVERSITY OF CHICAGO

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DEPARTMENT OF ARTS AND SCIENCES

In the enumeration of undergraduate students the column of figures indicates the number of semester-hours of work taken by the student prior to the beginning of the current academic year, 1916-17, and completed without conditions, or credited on advanced standing in candidacy for a degree. In Columbian College 120 credits are required for graduation; in Teachers College, 124; in the College of Engineering, 140.

SCHOOL OF GRADUATE STUDIES

IN ATTENDANCE

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Anthony,, Stephen Pantalis Diploma, 1904, Weystephen Agricultural College, Ba- varia Diploma, 1905, Technische Hochschule, Munich <i>Topic—Chemistry</i>	Minn.	1240 10th Street
Bowling, John Dominic, Jr. S.B., 1916, Maryland State College <i>Topic—Chemistry</i>	Md.	Upper Marlboro, Md.
Clinton, Guy S.B., 1891, Western Normal College, Shenandoah, Iowa S.M., 1916, University of the Philippines <i>Topic—Chemistry</i>	D. C.	1905 Pennsylvania Avenue
Covert, Roy Norton <i>Topic—Meteorology</i>	Ill.	2821 27th Street
Denham, Ruth Millicent A.B., 1910, George Washing- ton University <i>Topic—History</i>	D. C.	Manor House
Farrington, Charlotte Raynsford A.B., 1909, George Washing- ton University <i>Topic—History</i>	D. C.	2518 17th Street
Fisher, John Clinton, Jr. <i>Topic—Meteorology</i>	N. Y.	1658 Euclid Street
Goldstein, Morris Gersel Phar.D., 1915, George Wash- ington University <i>Topic—Chemistry</i>	D. C.	617 P Street

*Students who have withdrawn or graduated.

† Students who have entered since January 31, 1916.

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Gorsuch, James Stanley B.S. in C.E., 1909, Maryland Agricultural College B.S. in C.E., 1915, Johns Hopkins University <i>Topic</i> —Bacteriology	Md.	Hyattsville, Md.
*Greene, Aldie Ross A.B., 1910, Albion College, Mich. <i>Topic</i> —Chemistry	Mich.	608 A Street, N.E.
*Griggs, Elmer Vernon B.S. in E.E., 1908; B.M.E., 1909, Iowa State College LL.B., 1915 George Washing- ton University <i>Topic</i> —Electrical Engineer- ing	Iowa	1814 G Street
Johnson, Edward Henry <i>Topic</i> —Meteorology	D. C.	518 Newton Street
*Judson, Sidney Arthur C.E., 1912, Syracuse Univer- sity <i>Topic</i> —Chemistry	N. Y.	U. S. Geological Survey
*Kemp, Fletcher S.B., 1908, A.B., 1909, East- ern College, Manassas, Va. <i>Topic</i> —Chemistry	Va.	Falls Church, Va.
*Lepper, Henry Albert B.S. in Chem., 1913, George Washington University <i>Topic</i> —Microscopy	D. C.	Bureau of Chemistry Dept. of Agriculture
McCormick, John Dominic B.S. in C.E., 1910, C.E., 1915, George Washington Uni- versity <i>Topic</i> —Chemistry	D. C.	1377 North Carolina Ave.
McKenna, Alexander George S.B., 1891, Massachusetts Institute of Technology <i>Topic</i> —Chemistry	D. C.	621 Alabama Avenue
*Shuman, Royal Lewis S.B., 1914, George Washing- ton University <i>Topics</i> —Mechanical Engi- neering, Economics	D. C.	3519 14th Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Stanton, Asa Claude S.B., 1912, Maryland Agri- cultural College A.M., 1915, University of Missouri <i>Topic</i> —Bacteriology	Md.	2305 Woodridge Street, N. E.
Stauffer, Ruth Matilda A.B., 1906, Mount Holyoke College <i>Topic</i> —English	D. C.	3801 Jocelyn Street, Chevy Chase, D. C.
Van Kirk, Lloyd Howard A.B., 1916, George Washing- ton University <i>Topics</i> —French, Spanish	D. C.	1854 Ingleside Terrace

CIVIL ENGINEER

Magruder, Oliver Graham B.S. in C.E., 1916, George Washington University	D. C.	1440 Meridian Street
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ELECTRICAL ENGINEER

McCalip, Curtis Edgar B.S. in E.E., 1912, George Washington University	Md.	2309 Garrison Ave, Balti- more, Md.
†Safford, Howard Palmer B.S. in E.E., 1912, George Washington University	D. C.	1933 Park Road

MECHANICAL ENGINEER

Halsey, Arthur Sherman B.S. in M.E., 1914, George Washington University	D. C.	1337 Perry Place
Walén, Ernest Dean B.T.E., 1914, Lowell Textile School	Mass.	1954 Biltmore Street

MASTER OF SCIENCE

Barrows, Harry Percy S.B., 1911, Utah Agricultural College <i>Topics</i> —Major, Education; Minors, Education, Soci- ology	D. C.	1334 Corbin Place, N.E.
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<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Batdorff, Ida Janie S.B., 1905, Columbia University <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Bacteriology	Pa.	2650 Wisconsin Avenue
Davis, George von Pullinger M.D., 1910, B.S. in Med., 1915, George Washington University <i>Topics</i> —Major, Physiology; Minors, Bacteriology, Pathology	D. C.	3606 14th Street
DeForest, John Starr S.B., 1906, Amherst College <i>Topics</i> —Major, Meteorology; Minors, Meteorology, Nautical Science	Va.	U. S. Weather Bureau
Dodge, Cleon Orestes S.B., 1905, New Hampshire College <i>Topics</i> —Major, Chemistry; Minors, Bacteriology, Microscopy	N. H.	Bureau of Chemistry Dept. of Agriculture
Ellison, Arthur Daniel B.S. in Agr., 1912, Utah Agricultural College <i>Topics</i> —Major, Botany; Minors, Botany, Zoology	Utah	1812 G Street
Evans, Morgan William B.S.A., 1906, Cornell University <i>Topics</i> —Major, Botany; Zoology, Chemistry	Ohio	Bureau of Plant Industry
Gamble, James Alexander Graduate, 1909, Connecticut Agricultural College <i>Topics</i> —Major, Bacteriology; Minors, Chemistry, Bacteriology	D. C.	514 C St., N.E.
Grant, Dudley Hopkins S.B., 1914, University of Chicago <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Bacteriology	Ill.	1436 R Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Hornaday, Francis Adelbert S.B., 1907, M.D., 1910, George Washington Uni- versity <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Bac- teriology	D. C.	3509 14th Street
Hyde, Frederick Weston S.B., 1916, St. John's College, Md. <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Physics	D. C.	111 5th Street, N.E.
John, Otto Marion A.B., 1908, Union College <i>Topics</i> —Major, Chemistry; Minors, Zoology, Physi- ology	D. C.	Takoma Park, D. C.
†Knab, Frederick <i>Topics</i> —Major, Zoology, Mi- nors, Zoology, Botany	D. C.	217 8th Street, S.W.
Kubushiro, Shojiro S.B., 1907, Technical College, Tokio <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Bac- teriology	Japan	Japanese Embassy
Lee, William Canfield A.B., 1896, Kenyon College <i>Topics</i> —Major, Economics; Minors, Philosophy, Eco- nomics	Kansas	1741 Lanier Place
McBurney, John White A.B., 1913, Ohio State Uni- versity <i>Topics</i> —Major, Bacteriology; Minors, Chemistry, Physics	Ohio	723 Euclid Street
*Mau, Edward Albert Ch.E., 1915, Rensselaer Poly- technic <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Bac- teriology	N. Y.	U. S. Patent Office

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Morris, Guy Turner M.E., 1912, Cornell University <i>Topics</i> —Major, Electrical Engineering; Minors, Physics, Physics	Mo.	2625 Garfield Street
*Moxon Frank Macquarie A.B., 1915, Maryville College Sc.B., 1915, Valparaiso University <i>Topics</i> —Major, Pathology; Minors, Bacteriology, Chemistry	Ohio	1225 L Street
†Phillips, George Washington B.S. in Chem. 1917, George Washington University <i>Topics</i> —Major, Chemistry; Minors, Physics, Physics	D. C.	612 18th St.
Roeser, Harry Mance S.B., 1914, Oklahoma Agricultural and Mechanical College <i>Topics</i> —Major, Physics; Minors, Electrical Engineering, Mathematics	Ill.	Bureau of Standards
Sutton, Clarence George S.B., 1914, University of Wisconsin <i>Topics</i> —Major, Chemistry; Minors, Microscopy, Bacteriology	Minn.	Y. M. C. A.
Weinstein, Reuben A.B., 1914, George Washington University <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Bacteriology	N. Y.	40 New York Avenue

MASTER OF ARTS

Albrecht, Arthur Emil A.B., 1916, City College, New York City <i>Topics</i> —Major, Economics; Minors, Political Science, Sociology	N. Y.	1736 G Street
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<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Boettcher, Olivia Lorena A.B., 1916 Washington Missionary College <i>Topics</i> —Major, German; Minors, French, English	D. C.	532 Cedar Street, Takoma Park, D. C.
Borden, Daniel LeRay M.D., 1912, B.S. in Med., 1916, George Washington University <i>Topics</i> —Major, Anatomy; Minors, Gynecology, Surgery	D. C.	The Rochambeau
*Brownstein, Helen Gertrude A.B., 1915, Syracuse University <i>Topics</i> —Major, Economics; Minors, Sociology, Spanish	N. Y.	1359 Fairmont Street
Burke, Ellen Teresa A.B., 1916, George Washington University <i>Topics</i> —Major, English; Minors, Sociology, French	D. C.	531 Jefferson Street, Brightwood Park, D. C.
Burritt, Phoebe A.B., 1912, Wilson College <i>Topics</i> —Major, English; Minors, English; Architecture	D. C.	1855 Calvert Street
Caemmerer, Johannes Paul A.B., 1916, George Washington University <i>Topics</i> —Major, Archaeology, History of Art; Minors, Philosophy, English	Wis.	925 L Street
Christie, Alfred, Jr. A.B., 1912, Mercer University <i>Topics</i> —Major, Bacteriology; Minors, Bacteriology, Pathology	D. C.	2807 14th Street
*Collins, James Harold A.B., 1907, Bowdoin College M.D., 1915, George Washington University <i>Topics</i> —Major, Physiology; Minors, Psychology, Chemistry	D. C.	1435 9th Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Conklin, Coursen Baxter M.D., 1907, B.S., in Med., 1916, George Washington University <i>Topics</i> —Major, Medicine; Minors, Clinical Micro- scopy, Chemistry	D. C.	1344 R Street
Deffenbaugh, Walter Sylvanus A.B., 1898, West Virginia University <i>Topics</i> —Major, Education; Minors, Sociology, Political Science, Education	D. C.	U. S. Bureau of Education
*Doty, (Mrs.) Beulah Brigham A.B., 1906, University of Michigan <i>Topics</i> —Major, English; Mi- nors, German, French	D. C.	2551 17th Street
Draper, Henry White A.B., 1909, George Washing- ton University <i>Topics</i> —Major, English; Mi- nors, Education, Psychol- ogy	D. C.	The Cavendish
Feigenberg, Leo Mironovich Diploma, 1907, Imperial Uni- versity of Kiev; Univer- sity of Copenhagen <i>Topics</i> —Major, German; Mi- nors, Russian, Philosophy	N. Y.	1315 7th Street
Fink, Reuben A.B., 1911, George Wash- ington University <i>Topics</i> —Major, Education; Minors, Economics, Edu- cation	D. C.	306 M Street
Gatchell, Marie Ellen A.B., 1916, George Washing- ton University <i>Topics</i> —Major, English; Mi- nors, History, Education	D. C.	1736 Park Road

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Gwynn, Francis Bernard A.B., 1907, St. John's Col- lege; A.B., 1907, University of Maryland <i>Topics</i> —Major, Education; Minors, Education, Chem- istry	Md.	Clinton, Md.
Heller, Mary Elizabeth S.B., 1908, Columbia Univer- sity <i>Topics</i> —Major, German; Mi- nors, French, Sociology	Md.	3427 Holmead Place
Hobbs, Ewart William A.B., 1916, George Washing- ton University <i>Topics</i> —Major, Philosophy; Minors, English, Philoso- phy	D. C.	718 18th Street
Huff, (Mrs.) Daisie Morgan S.B., 1902, Valparaiso Uni- versity; A.B., 1911, George Washington University <i>Topics</i> —Major, Education; Minors, Psychology, Phi- losophy	D. C.	2134 F Street
Hunter, Oscar Benwood M.D., 1912, A.B., 1916, George Washington Uni- versity <i>Topics</i> —Major, Anatomy; Minors, Bacteriology, Pa- thology	D. C.	1335 H Street
Lamb, Agnes Nelson A.B., 1915, George Washing- ton University <i>Topics</i> —Major, Education; Minors, English, German	D. C.	2240 Cathedral Avenue
Lasier, Harriet Catherine A.B., 1915, George Washing- ton University <i>Topics</i> —Major, English; Mi- nors, German, English	D. C.	1427 Girard Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Longacre, Charles Small A.B., 1914, Emmanuel Mis- sionary College <i>Topics</i> —Major, Philosophy; Minors, Political Science, Psychology	D. C.	102 Park Avenue, Takoma Park, D. C.
Lynch, Sara Phebe A.B., 1901, George Washing- ton University <i>Topics</i> —Major, English; Mi- nors, English, Grekk	D. C.	815 Newton Street, N. E.
McArthur, Louis Eugene B.Pd., 1897, Brigham Young University; A.B., 1916, George Washington Uni- versity <i>Topics</i> —Major, Political Sci- ence; Minors, History, Economics	Utah	Interstate Commerce Com- mission
Maret, Jeanne A.B., 1910, George Washing- ton University <i>Topics</i> —Major, French; Mi- nors, German, English	France	1724 Connecticut Avenue
†Melvin, John Walton Divers A.B., 1899, Western Mary- land College <i>Topics</i> —Major, Economics; Minors, Sociology, Politi- cal Science	Md.	800 21st Street
Myers, Charles Gutilius A.B., 1905, Western Mary- land College <i>Topics</i> —Major, Education; Minors, Education, Philos- ophy	Md.	Rockville, Md.
Patrick, Wellington A.B., 1915, George Washing- ton University <i>Topics</i> —Major, Education; Minors, Education, His- tory	Okla.	1814 G Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Patterson, Ruth Capelle A.B., 1915, George Washington University <i>Topics</i> —Major, Zoology; Minors, English, History	D. C.	422 Randolph Street
Salisbury, Elon Galusha S.B., 1911, Union College, Nebraska <i>Topics</i> —Major, Education; Minors, Education, Psychology	D. C.	127 Carroll Avenue, Takoma Park, D. C.
Scott, Leila Fordham A.B., 1913, George Washington University <i>Topics</i> —Major, Education; Minors, Education, Economics	D. C.	649 B Street, N. E.
Shipman, (Mrs.) Elydia Page (Foss) A.B., 1905, Boston University <i>Topics</i> —Major, English; Minors, Education, Education	D. C.	1632 19th Street
Sperry, Paul A.B., 1902, George Washington University <i>Topics</i> —Major, Philosophy; Minors, Psychology, Sociology	D. C.	1437 Q Street
Steever, Laura Winfield S.B., 1911, George Washington University <i>Topics</i> —Major, Sociology; Minors, Sociology, Preventive Medicine	D. C.	2106 F Street
*Swain, Henry Lewis Diploma, 1904, Southern Baptist Theological Seminary; A.B., 1916, Wake Forest College <i>Topics</i> —Major, Philosophy; Minors, Philosophy, Sociology	Va.	Clarendon, Va.

Name	Legal Residence	Address
Underwood, Harriet A.B., 1913, George Washington University <i>Topics</i> —Major, Education; Minors, History, Education	D. C.	2551 37th Street
*Van Schaick, (Mrs.) Nellie Kellogg A.B., 1905, University of Michigan <i>Topics</i> —Major, English; Minors, French, English	N. Y.	1418 M Street
*Wasserman, Henry, Jr. A.B., 1915, Cornell University <i>Topics</i> —Major, Economics; Minors, Political Science, Political Science	N. Y.	Y. M. C. A.
Weber, (Mrs.) Angelia Washburn A.B., 1912, Colorado State Teachers College <i>Topics</i> —Major, Education; Minors, English, Education	Colo.	Washington College, Takoma Park, D. C.
Winchester, Almira Munn B.S., in Ed., 1911, Columbia University <i>Topics</i> —Major, Education; Minors, Philosophy, History	Canada	Wardman Courts East
Yang, Yung-Ching A.B., 1910, Soochow University <i>Topics</i> —Major, International Law and Diplomacy; Minors, Political Science, History	China	2001 19th Street

DOCTOR OF PHILOSOPHY

Albertsworth, Edwin Franklin A.B., 1915, A.M., 1916, George Washington University <i>Topics</i> —Major, History; Minors, Philosophy	Md.	130 Carroll Avenue, Takoma Park, D. C.
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<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Bevard, Katherine Harper A.B., 1911, A.M., 1913, George Washington Uni- versity <i>Topics</i> —Major, Education; Minors, Education, Eng- lish	Pa.	1423 R Street
*Birnie, Martha Noyes A.B., 1915, A.M., 1916, George Washington Uni- versity <i>Topics</i> —Major, English; Mi- nors, History, History of Art	D. C.	1711 19th Street
Blumberg, Alfred M.Ph., 1905, Royal Francis Joseph University, Hungary Phar.D., 1916, George Washington University <i>Topics</i> —Major, Bacteriology; Minors, Pathology, His- tology and Embryology	Mont.	215 9th Street, S. W.
Burden, Katherine A.B., 1914, S.M., 1915, George Washington Uni- versity <i>Topics</i> —Major, Zoology; Mi- nors, Zoology, Botany	D. C.	1237 Crittenden Street
*Burke, Carl Martin A.B., 1912, Bethany College, Kansas; A.M., 1913, Uni- versity of Kansas <i>Topics</i> —Major, Economics; Minors, Economics, Soci- ology	Kans.	708 19th Street
†Church, Margaret Brooks A.B., 1912, A.M., 1914, Brown University <i>Topics</i> —Major, Botany; Mi- nors, Botany, Zoology	R. I.	Bureau of Chemistry
Clothier, Robert Waitman S.B., 1897, S.M., 1899, Kansas State Agricultural College <i>Topics</i> —Major, Economics; Minors, Geology, Educa- tion	D. C.	1722 Euclid Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
†Collins, James Harold A.B., 1907, Bowdoin College; M.D., 1915, A.M., 1917, George Washington Uni- versity <i>Topics</i> —Major, Physiology; Minors, Psychology, Chem- istry	D. C.	1435 9th Street
Connor, Louis George S.B., 1910, S.M., 1913, Wes- leyan University; M.S.A., 1912, Cornell Univer- sity <i>Topics</i> —Major, History; Mi- nors, History, Economics	D. C.	1518 R Street
Dennis, Showell Coulbourn B.S., in Ag., 1912, Maryland Agricultural College; S.M., 1915, George Washington University <i>Topics</i> —Major, Bacteriolo- gy; Minors, Hygiene, Pre- ventive Medicine	Md.	College Park, Md.
Doyle, Aida Mary S.B., 1898, S.M., 1899, George Washington University <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Phys- ics	Pa.	3751 Northampton Street
Ellison, Everett Monroe A.B., 1901, A.M., 1903, Uni- versity of Chattanooga; M.D., 1912, George Wash- ington University <i>Topics</i> —Major, Physiology; Minors, Pharmacology, Psychiatry	Tenn.	The Toronto
Enlows, (Mrs.) Ella Morgan Austin A.B., 1915, S.M., 1916, George Washington Uni- versity <i>Topics</i> —Major, Bacteriolo- gy; Minors, Pathology, Chemistry	W. Va.	24 Carroll Avenue, Ta- koma Park, D. C.

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
†Fink, Reuben A.B., 1911, George Washington University <i>Topics</i> —Major, Semitics; Minors, Semitics, Education	D. C.	306 M Street
Garber, John Absalom A.B., 1891, Bridgewater College; A.M., 1915, George Washington University <i>Topics</i> —Major, Education; Minors, Psychology, Philosophy	D. C.	508 B Street, S. E.
Gardiner, Robert Franklin S.B., 1908, Rhode Island State College; S.M., 1914, George Washington University <i>Topics</i> —Major, Chemistry; Minors, Chemistry, Geology, Bacteriology	Va.	Clarendon, Va.
Hanna, G. Dallas A.B., 1910, A.M., 1913, University of Kansas <i>Topics</i> —Major, Zoology; Minors, Zoology, Botany	Kans.	Bureau of Fisheries
Harter, Leonard Lee A.B., 1903, A.M., 1906, University of Nebraska <i>Topics</i> —Major, Botany; Minors, Bacteriology, Zoology	D. C.	1880 Monroe Street
Heathcote, Charles William A.B., 1905, A.M., 1908, Pennsylvania College; A.M., 1912, University of Pennsylvania <i>Topics</i> —Major, History; Minors, History, Sociology	Pa.	607 Union Trust Building
Huddle, John Thomas A.B., 1891, A.M., 1896, Roanoke College <i>Topics</i> —Major, English; Psychology, Philosophy	D. C.	738 11th Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Ice, Harry Lawrence A.B., 1912, A.M., 1912, Bethany College <i>Topics</i> —Major, Philosophy; Minors, English, Sociology	Md.	Mt. Rainier, Md.
John, Walton Colcord A.B., 1914, A.M., 1915, George Washington University <i>Topics</i> —Major, Education; Minors, Psychology, Philosophy	Ill.	114 Willow Avenue, Takoma Park, D. C.
Kellogg, Edward Henry S.B., 1911, Kansas State Agricultural College <i>Topics</i> —Major, Chemistry; Minors, Bacteriology, Chemistry	Wis.	Bureau of Plant Industry
Knudtson, Clarence Andrew A.B., 1913, A.M., 1914, George Washington University <i>Topics</i> —Major, English; Minors, Psychology, Economics	Wis.	703 Lawrence Street, N. E.
Mansfield, Wendell Clay S.B., 1908, Syracuse University; S.M., 1913, George Washington University <i>Topics</i> —Major, Zoology; Minors, Zoology, Geology and Mineralogy	N. Y.	U. S. National Museum
Merz, Albert Ronald B.S., in Chem., 1909, M.S. in Chem., 1911, University of Virginia <i>Topics</i> —Major, Chemistry; Minors, Physics, Applied Mathematics	Va.	1867 Monroe Street
†Miller, Edward Andrew S.B., 1900, S.M., 1903, Alabama Polytechnic Institute <i>Topics</i> —Major, Education; Minors, Sociology, Education	Ala.	3149 Mt. Pleasant Street

Name	Legal Residence	Address
†Miller, Harry McClure S.B., 1909, Hanover College; S.M., 1913, George Washington University Topics—Major, Bacteriology; Minors, Chemistry, Microscopy	D. C.	3157 Mt. Pleasant Street
Minnick, Arthur A.B., 1897, University of Chicago; LL.B., 1903, Lake Forest University; M.P.L., 1907, George Washington University Topics—Major, Chemistry; Minors, Physiology, Bacteriology	D. C.	1921 Hamlin Street, N. E.
Muerman, John Charles A.B., 1910, Washington State College; A.M., 1916, George Washington University Topics—Major, Education; Minors, Education, Sociology	D. C.	1701 Park Road
*Nava, Severiano Concepcion A.B., 1907, LL.B., 1912, St. Thomas University, P. I.; LL.M., 1915, A.M., 1916, Georgetown University Topics—Major, International Law; Minors, Political Science, Sociology	P. I.	148 House Office Building
Outwater, (Mrs.) Kate Sorrell A.B., 1913, S.M., 1915, George Washington University Topics—Major, Zoology; Minors, Zoology, Botany	D. C.	620 F Street, S. W.
Pfeiffer, John Arthur Franklin M.D., 1908, Baltimore Medical College; A.M., 1916, George Washington University Topics—Major, Pathology; Minors, Bacteriology, Psychology	Md.	Government Hospital for the Insane

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Pierce, William Dwight A.B., 1904, A.M., 1907, University of Nebraska <i>Topics</i> —Major, Zoology; Minors, Zoology, Meteorology	D. C.	3812 Jocelyn Street, Chevy Chase, D. C.
Rathbun, Mary Jane A.M., 1916, University of Pittsburgh <i>Topics</i> —Major, Zoology; Minors, Zoology, Paleontology	D. C.	Hammond Court
Resser, Charles Elmer A.B., 1913, Franklin and Marshall College; A.M., 1915, George Washington University <i>Topics</i> —Major, Geology; Minors, Mineralogy, Zoology	Pa.	U. S. National Museum
Roark, Ruric Creegan A.B., 1907, University of Cincinnati; A.M., 1908, University of Illinois <i>Topics</i> —Major, Chemistry; Minors, Bacteriology, Pharmacology	Ky.	1668 Park Road
Roberts, John William A.B., 1904, A.M., 1909, University of Nebraska <i>Topics</i> —Major, Botany; Minors, Bacteriology, Chemistry	D. C.	1619 R Street
Rogers, Jerome Stanley B.S., in Chem., 1907, Syracuse University; S.M., 1909, University of Illinois <i>Topics</i> —Major, Chemistry; Minors, Bacteriology, Microscopy	N. Y.	4517 Georgia Ave.
Ryan, Calvin Taylor A.B., 1911, A.M., 1914, Washington College, Maryland <i>Topics</i> —Major, English; Minors, Education, Political Science	Md.	514 Cameron Street, Alexandria, Va.

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Ryan, Will Carson, Jr. A.B., 1907, Harvard University <i>Topics</i> —Major, Education; Minors, Germanic Languages and Literature, Romance Languages and Literature	N. J.	Bureau of Education
Sampson, Arthur William S.B., 1907, A.M., 1909, University of Nebraska <i>Topics</i> —Major, Botany; Minors, Meteorology, Zoology	Neb.	The Cairo
Schmitt, Waldo Lasalle A.B., 1913, George Washington University; A.M., 1916, University of California <i>Topics</i> —Major, Zoology; Minors, Zoology, Paleontology	D. C.	2233 18th Street
*Schroeder, James P. A.B., 1912, McPherson College; S.M., 1914, Kansas State University <i>Topics</i> —Major, Chemistry; Minors, Geology, Physics, Applied Mathematics	Kans.	708 19th Street
*Shapovalov, Michael A.B., 1903, Theological Seminary, Witebsk, Russia; S.M., 1913, University of Maine <i>Topics</i> —Major, Botany; Minors, Zoology, Chemistry	Maine	Bureau of Plant Industry
Swanson, Adolph Martin A.B., 1912, Augustana College, Illinois; S.M., 1916, University of Chicago <i>Topics</i> —Major, Physiology; Minors, Chemistry, Clinical Microscopy	Mich.	Y. M. C. A.

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Swett, Otis Dow LL.B., 1891, LL.M., 1892, S.B., 1904, A.M., 1909, George Washington Uni- versity <i>Topics</i> —Major, Chemistry; Minors, History, Bacteri- ology	Md.	1325 H Street
Wanlass, William Lawrence A.B., 1915, A.M., 1916, George Washington Uni- versity <i>Topics</i> —Major, Political Sci- ence; Minors, Economics, History	Utah	2106 F Street
†Wetmore, Alexander A.B., 1912, University of Kansas; S.M., 1916, George Washington University <i>Topics</i> —Major, Zoology, Mi- nors, Zoology, Paleontol- ogy	D. C.	1495 Newton Street

COLUMBIAN COLLEGE

CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
Adams, Leslie Harold	0	D. C.	160 Tennessee Avenue, N.E.
Aldrich, Spencer Eugene	0	Kans.	725 20th Street
Aman, John Andrew	0	Md.	Mt. Rainier, Md.
Arledge, Caroline M.	48	D. C.	2628 Garfield Street
Armstrong, Marjorie	44	D. C.	13 Randolph Place
Arner, William A.	0	N. J.	56 V Street
*Atkinson, Horace L. B.	0	D. C.	Fendall Building
Aultman, Edith	0	Wis.	The Northumberland
Ball, Homer William	54	D. C.	Weather Bureau
*Ballinger, Edwin Ray	6	Colo.	1489 Newton Street
*Ballou, Nicholas Senn	0	D. C.	1812 H Street
*Barnes, Norman Herbert	0	D. C.	1337 A Street, N.E.
Barr, Eugene Osmon	56	D. C.	510 A Street, S.E.
Barr, Martin Richard	29	D. C.	28 Seaton Place
Barse, George Percy	108	Md.	1363 B Street, S.E.
Bates, Claude Erman	0	D. C.	The Cumberland
*Belda, Francisco Maximo	0	P. I.	1750 N Street

Name	Credits	Legal Residence	Address
Bennett, Ruth Hilton	40	D. C.	3420 Mt. Pleasant Street
Bennetts, Mildred	0	D. C.	1941 First Street
Bixler, John Shively	85½	D. C.	821 Massachusetts Avenue, N.E.
Bladen, Ashby Edward	6	Va.	Southern Railway Office
*Bloem, John Henry	61	Mich.	2023 G Street
Bose, Norma	81	D. C.	1923 North Capitol Street
Boss, Charles Frederick, Jr.	0	Va.	Arlington, Va.
Boteler, May Hovencamp	103	D. C.	37 Girard Street, N.E.
Bowen, George Loveridge	0	Kans.	1736 G Street
Bragg, James Elton	0	D. C.	Interstate Commerce Commission
Branson, Dolly Esther	0	Tex.	1719 13th Street
Breuninger, Ruth	56	D. C.	5700 16th Street
Bristow, Margaret Rouse	0	D. C.	3179 18th Street
Brooks, Marian Augusta	75	D. C.	636 E Street, N.E.
Brown, Estella E.	0	Md.	710 District National Bank Building
Brown, Wager S.	50	D. C.	5301 Connecticut Avenue
Brubaker, (Mrs.) Bessie Alfaretta	22½	Ind.	1320 U Street
Bruce, Alexander Wallace	112½	Ohio	4130 7th Street
Bullough, Joseph Harold	42	D. C.	122 Tennessee Avenue, N.E.
Burleson, Adele Sidney	95	Tex.	1901 F Street
Burlingame, Lucy Llewellyn	50	D. C.	1419 22nd Street
Burt, Edwin Caleb	83	D. C.	1102 Vermont Avenue
†Butler, Marion, Jr.	21	D. C.	1232 16th Street
Cage, John Palmer	0	Idaho	2200 20th Street
Callahan, Dolly Marthena	6	Va.	Alexandria, Va.
Callahan, Mildred Ruberta	6	Va.	Alexandria, Va.
Callihan, Loyzelle Josephine	84	Ark.	118 Willow Avenue, Takoma Park, D. C.
Camfield, Lionel Henry	30	D. C.	War Department
Carden, Samuel Poe	88½	Tex.	4105 Fifth Street
Carnahan, Lina Wright	69	Mo.	3606 13th Street
Carter, Amy Margaret	27	Ill.	732 Post Office Building
Carter, Catherine	18	Md.	Chevy Chase, Md.
Carter, Hester Luvita	6	D. C.	27 Quincy Place, N.E.
Carter, Robert Golden	31	Md.	Chevy Chase, Md.
Catzva, Morris	90	D. C.	235 F Street, N.E.
M.D., 1916 George Washington University			

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
*Chase, Ella Maud	0	D. C.	3020 Dent Place
Childs, St. Julien Ravenel	45	S. C.	2815 18th Street
Chu, King	0	China	1916 G Street
†Church, Earl R.	0	Mich.	1106 8th Street
Clark, Marguerite Perry	81	D. C.	1778 Lanier Place
Clark, Naomi Eloise	18	D. C.	1610 Monroe Street
*Cleary, Charles Joseph	54	Mass.	1756 Q Street
Cochran, Doris Mabel	0	Penna.	2027 First Street
Cole, Hazen Eugene	24	D. C.	639 East Capitol Street
Collier, Neil Rex	10	D. C.	115 New York Avenue
Collins, William Moore	12	D. C.	1811 G Street
*Colwell, Herbert Ross	30	D. C.	402 7th Street, N.E.
Connelly, John Waldo, Jr.	3	D. C.	1420 Girard Street
Conway, David McKee	96	D. C.	658 E Street, S.E.
Coon, (Mrs.) Nellie Turner	6	Pa.	1236 11th Street
*Crain, Newell Berryman	58	Tex.	531 18th Street
Crist, Marian Brownell	35	D. C.	1965 Biltmore Street
Cromer, Robert Russell	0	Va.	1218 11th Street
*Cullegan, William L.	0	D. C.	920 R Street
Cullen, Elizabeth Orlan	65	D. C.	307 B Street, N.E.
Currie, William Ellyson	108	Va.	Clarendon, Va.
Daniel, Julia Irene	0	D. C.	512 Randolph Street
Davis, David	74	D. C.	1726 P Street
Davis, Dorothy May	82	D. C.	2212 First Street
Davis, Elizabeth Aileen	65	D. C.	2212 First Street
Dennett, Dorothy Dixon	0	D. C.	1739 Q Street
Densmore, Ethel May	0	N. Y.	618 I Street
†De Tar, Marion D.	0	Ind.	Y. M. C. A.
*Diggs, Vera L.	0	D. C.	718 18th Street
Dixon, Edna Augusta	6	D. C.	2013 I Street
Douglas, Elsie Young	34	D. C.	The Cecil
*Douglass, Maude	19½	D. C.	1851 Irving Street
Doyle, Richard Smith	53	N. H.	1333 15th Street
Drake, Alice Hutchins	37	D. C.	2611 Adams Mill Road
Dunagen, Carlos	54	Ind.	718 18th Street
Dunnells, Cora Knutsford	65	D. C.	Wardman Courts
DuVal, Russell Lee	32	D. C.	621 A Street, N.E.
*Dyer, Worden P.	0	D. C.	329 13th Street, S.E.
*Earle, Ruth Sarah	0	D. C.	1334 Irving Street
Earnest, John Paul, Jr.,	0	D. C.	2123 N Street
Earnshaw, Eleanore Allison	30	D. C.	224 8th Street, S.E.
*Eaton, Frank M.	96	D. C.	529 G Street
*Eckendorf, George Earle	0	D. C.	1007 Massachusetts Avenue N.E.

Name	Credits	Legal	
		Residence	Address
Einstein, May Blanche	0	D. C.	619 19th Street
Elgin, Hugh Bassett	66	D. C.	916 15th Street
Ellis, George Stoughton	30	D. C.	3363 18th Street
Ellis, Miner Sears	30	D. C.	3363 18th Street
Ellison, Newell Windom	90	D. C.	1736 G Street
Enlows, Harold Franklin	63	D. C.	24 Carroll Avenue, Takoma Park, D. C.
Evans, John H.	46	Pa.	Y. M. C. A.
Fadeley, Fenton Mercer	53	D. C.	1527 Newton Street
*Farmer, Mary Caroline	85	N. C.	651 Lexington Place, N.E.
Farrell, Thomas Francis	24	Mass.	The Maury
Fearing, Justin Lincoln	72	Mass.	Bureau of Standards
Fisher, Henry Wellen, Jr.	26	D. C.	3205 R Street
Fogerty, Edwin Francis	0	N. Y.	1161 5th Street, N.E.
Fogerty, Gertrude Catherine	102	D. C.	1161 5th Street, N.E.
Friedman, Bernhart Aaron	30	D. C.	2205 Champlain Street
Garner, Tully Charles	95½	Tex.	1120 Vermont Avenue
Garver, Roy Olin	30	Ill.	2002 G Street
Gates, Phebe Chappell	0	D. C.	1817 Lamont Street
Geschickter, Frances F.	49	D. C.	1239 12th Street
Gill, Minna Partridge	40	Md.	1212 34th Street
*Gillespie, Julian E.	0	Tex.	1514 K Street
Gilligan, William James	43½	W. Va.	2030 F Street
Gleason, Phebe Marjorie	6	D. C.	1418 W Street
Glendye, William	0	Mo.	4019 Illinois Avenue
Glover, Clarence Kinsey	21	W. Va.	1100 Vermont Avenue
Glueck, Sol S.	22	Wis.	Department of Agriculture
Godbold, Albea	13½	Miss.	1233 Pennsylvania Avenue
Gordner, LeRoy George	0	Ind.	Star Building
Grabill, Mary Eloise	58	D. C.	Takoma Park, D. C.
Graham, Harry Wayne	18	Ohio	718 18th Street
Greene, Lemuel Eugene	15	D. C.	2715 14th Street
Gronna, Arthur J.	30	D. C.	2219 California Street
Haines, Mary Susan	18	Mo.	3228 School Street
Hall, Marie Evelyn	0	D. C.	1228 Maryland Avenue, N.E.
Hamburg, Alexander Maxwell	102	N. Y.	1756 T Street
Hamilton, Edward E.	0	Wis.	929 Westminster Street
Hardy, Margaret Boude	96	D. C.	812 East Capitol Street
Harring, Harry Kryger	0	D. C.	1436 W Street
Harry, Edward Brook	9	D. C.	4715 River Road
Harvey, Margaret Helena	96	D. C.	1603 Kenilworth Avenue
Harvey, Rosamond Frances	6	D. C.	2007 F Street

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
Hearne, Susan Snell	67	Mo.	1307 P Street
Heitmuller, Elizabeth Roeder	38	D. C.	1307 14th Street
Heron, Katharine Juanita	55	D. C.	5437 Connecticut Avenue
Herrmann, Jane Elizabeth	62	Md.	1736 Columbia Road
Herscheid, John P.	0	Mich.	2018 F Street
Herzmark, Maurice Hart	74	D. C.	1631 Newton Street
Hetfield, Francis Ward	0	D. C.	1233 Lawrence Street, N.E.
Hidnert, Peter	78	N. Y.	Bureau of Standards
*Hillis, Roger Whitman	58	Ill.	1739 P Street
*Hills, Thomas Oliver	0	D. C.	2236 Cathedral Avenue
Hoer, Walter Carl	21	Fla.	Y. M. C. A.
Hohenstein, Arthur Edwin	0	Ill.	505 4th Street
Holm, Adolph F.	43	Minn.	2134 F Street
*Holzer, Samuel	0	N. Y.	431 M Street
Hopiak, Walter Vladimir	0	Pa.	2000 F Street
Horack, Willie Richard	3	Ore.	224 Rhode Island Avenue
Hornaday, James Herbert	0	D. C.	1419 Newton Street
Horwitz, Abraham	30	D. C.	916 4½ Street
Howard, Deane Childs, Jr.	27	D. C.	1801 K Street
Howell, Ada Margaret	0	D. C.	1317 C Street, N.E.
Hsie, Changhsi	62	China	2023 Kalorama Road
Huff, Charles Ritchey	1½	Minn.	1736 G Street
Hume, Thomas Lee, Jr.	3	D. C.	2113 S Street
Humphrey, Mary Elizabeth	0	D. C.	406 Rhode Island Avenue
Huse, Fay Irene	25½	Mont.	1262 Columbia Road
Jackson, Lawrence Oscar	83	Colo.	17 T Street, N.E.
Jackson, Marguerite Jenette	0	D. C.	1331 K Street
Jackson, William Isaac	0	Ill.	Y. M. C. A.
Joergensen, Hans	74	D. C.	812 E Street, S.E.
Jonas, Josephine Marie	36	D. C.	1704 Oregon Avenue
Kahn, Esther	65	D. C.	2515 University Place
Kaplovitz, Rebecca	0	N. J.	Mt. Rainier, Md.
*Kebler, Victor Lyman	59½	D. C.	1322 Park Road
Keenan, Gerald James	59	N. Y.	1739 P Street
Kelley, McClure	0	Iowa	The Brighton
Kelly, Paul	0	Ga.	1741 P Street
Kelly, Raymond D.	6	Ga.	1741 P Street
Khan, Naghi	67	Persia	1719 Connecticut Avenue
Kirby, Homer H.	0	Ohio	721 19th Street
Kitchen, Conway N	36	D. C.	Wardman Courts
Knight, Robert Ernest, Jr.	0	Va.	207 Prince Street, Alexandria, Va.

Name	Credits	Legal	
		Residence	Address
Knights, Alice Fern	54	Minn.	1361 Fairmont Street.
*Knock, Franklin Coblentz	3	D. C.	419 G Street
Kolar, Lenore Edna	12	D. C.	4123 9th Street
Kunkel, Frederick Eugene	70	Pa.	2009 G Street
LaFollette, Robert Ches- ter	0	Wash.	3320 16th Street
*Lane, Franklin K., Jr.	0	D. C.	1866 Wyoming Avenue
Langellotti, Frank	45	N. Y.	813 21st Street
Larson, John Emil	13½	Maine	Bureau of Immigration
Lasley, William A.	6	N. C.	941 H Street
Lazaro, Elaine	0	La.	Fontanet Courts
Lazaro, Heloise	0	La.	Fontanet Courts
Lee, Agnes Irene	0	D. C.	327 10th Street, N.E.
Lehman, Roland J.	6	Ill.	1404 Harvard Street
*LeVey, Herman Bernard	0	D. C.	1123 13th Street
Levy, Arthur	18	D. C.	806 21st Street
Lewis, Ollie Lee	82	Ky.	Weather Bureau
Linder, John Edwin	0	D. C.	304 4th Street, S.E.
Lindon, Oscar Henry	45	Wis.	707 22nd Street
Lloyd, Leonila Marie	30	D. C.	54 Manor House
*Lodge, Robert Jay	0	Conn.	1810 N Street
Logan, Daniel Nicol	0	D. C.	21 Bates Street
Louis, Max Colman	3	D. C.	47 Quincy Place, N.E.
Love, Rebecca Lawrens	94½	Va.	910 Massachusetts Avenue
Lowber, Louise Lloyd	0	N. Mex.	1748 Lamont Street
*Lucal, Ira David	49½	Ohio	1810 N Street
Lyngklip, Ole W.	0	Mich.	821 New Jersey Avenue
Lyon, Quinter Marcellus	0	D. C.	636 South Carolina Avenue S.E.
Lyons, Katharine	67	D. C.	1349 Columbia Road
McBrien, Ruth	0	Md.	Riverdale, Md.
McCleary, Donald C.	78	D. C.	Y. M. C. A.
McCloud, Marie Congdon	17	D. C.	1437 Rhode Island Avenue
McCormack, Thomas Wil- liam	90	Pa.	The Cumberland
*McEntyre, Mary	85	D. C.	Rock Creek Church Road
McGrew, Martha Steele	34	Tenn.	Fairmont Seminary
McKelway, Benjamin Mos- by	83	D. C.	2071 Park Road
McKendree, Laurette	6	N. H.	1300 Fairmont Street
McKenna, Philip Mowry	38	D. C.	621 Alabama Avenue, S.E.
McWilliams, Donald Park	0	Ohio	Y. M. C. A.
Manglos, Fred	0	Mich.	2447 18th Street
Marsteller, Charles Mar- ion	34	W. Va.	945 K Street

Name	Credits	Legal	
		Residence	Address
Marthinson, Detlow			
Mainch	63½	D. C.	1842 Calvert Street
*Martin, Florence E.	3	D. C.	417 Hobart Place
Martin, Howard Hanna	22	Ind.	1100 Vermont Avenue
Martin, Merle Clifton	0	Neb.	Y. M. C. A.
Massie, Mattie Luella	0	D. C.	1307 L Street
Matthews, Edward Wright	0	Tex.	606 22nd Street
Mearns, David Chambers	0	D. C.	1441 Q Street
Meese, Norman Sheridan	67½	N. Y.	1916 16th Street
Menzel, Emil Wolfgang	30	D. C.	1920 G Street
Metzerott, Gertrude Kirk	0	* D. C.	The Northumberland
Miller, Karl Willett	93	D. C.	44 V Street
Miller, Walter LeRoy	0	D. C.	204 Pennsylvania Avenue, S.E.
Mills, Eddie Lance	49	Tex.	2002 G Street
Miltner, Wesley H.	0	Kans.	389 Rhode Island Avenue
Minkin, Hyman	0	Russia	416 P Street
†Minshall, Robert	0	D. C.	2026 R Street
Minster, Mildred Doris	3	D. C.	1511 Park Road
†Mitchell, William B.	120	D. C.	2238 Q Street
Moore, Mildred Josephine	0	D. C.	111 Tennessee Avenue, N. E.
Moran, Catharine Regis	3	D. C.	1727 Columbia Road
Moses, Kathleen	0	D. C.	The Toronto
Mottern, Albert Joseph	21	Ohio	2002 G Street
Moxon, (Mrs.) Gail Fitch	117	D. C.	1225 L Street
Nelms, Henning Cuning- ham	0	D. C.	1121 12th Street
Nelson, Agnes Christine	10½	N. Dak.	2524 17th Street
Nelson, Norman Justin	123	N. Dak.	2524 17th Street
Nelson, Ruth J.	18	Wis.	2240 Cathedral Avenue
Neumann, Meta A.	89	D. C.	701 A Street, S.E.
*Niederhauser, Donald Oliver	87	Ohio	1739 P Street
Niess, Edwin Mark	56	D. C.	61 Rhode Island Avenue
†Nixon, Robert Lee		Ga.	1223 10th Street
Nordlinger, George	32	D. C.	3113 N Street
Orr, Agnes Vivian	77½	N. Dak.	2601 Connecticut Avenue
Overstreet, Ella Catherine	69	S. C.	316 East Capitol Street
Overstreet, Walter	12	S. C.	316 East Capitol Street
*Packer, Earl LeNoir	18	Utah	Y. M. C. A.
*Padgett, Mildred	51	D. C.	1726 Euclid Street
Paine, Ethel Charlotte	50	D. C.	510 Randolph Street
Paltridge, George Henry	94	D. C.	1222 O Street
Park, Frances Louise	27	Mich.	807 Taylor Street
Parsons, Berith	56	D. C.	125 Willow Avenue, Ta- koma Park, D. C.,

Name	Credits	Legal	
		Residence	Address
*Paul, Erma	32	D. C.	25 Girard Street, N.E.
Peet, Elizabeth	88½	D. C.	Kendall Green
Peirce, Lois Emma	85	D. C.	229 Pennsylvania Avenue, S.E.
†Pennington, Brownlee	30	Texas	1308 Park Road
*Pepper, John Philip	21	D. C.	2111 O Street
Petrie, Mary Esther	30	D. C.	2815 6th Street, N.E.
Peyton, Tom Lewis	0	D. C.	2623 Garfield Street
†Phares, Earl R.	0	Kans.	1225 L Street
*Phillips, Adrienne Trice	0	Fla.	1331 K Street
Phillips, J. Barton	36	Va.	216 South Fairfax Street, Alexandria, Va.
Pickford, W. H.	0	D. C.	2620 Connecticut Avenue
Pierce, Fay Elizabeth	110	D. C.	1748 Lamont Street
Pope, Darwin Jesse	0	D. C.	3214 Newark Street
*Pope, Gladys Anna	0	D. C.	3214 Newark Street
Preinkert, Margaret Marie	0	D. C.	1511 L Street
Prettyman, Charles Wesley	17	D. C.	1308 Columbia Road
*Price, James Richard	0	Ala.	111 B Street, S.E.
Pugh, Louise Benton	18	D. C.	1802 R Street
Pyle, Elizabeth	29	D. C.	3319 Newark Street
Ranck, James Byrne	0	D. C.	1405 15th Street
Rappaport, Harry	18	N. Y.	406 First Street, S.E.
Ravenel, Henry	35	D. C.	1611 Riggs Place
Reeves, George Torreyson	36	Va.	Ballston, Va.
Reh, Emma	84	D. C.	1352 Good Hope Road
Reynolds, Francis Core	29	D. C.	3038 Dumbarton Avenue
Reynolds, Olive Amrita	0	D. C.	503 River Road, Chevy Chase, D. C.
Richards, Eleanor Rothwell	0	D. C.	1825 Corcoran Street
Richardson, Elisabeth Laura	51	D. C.	1001 Alabama Avenue
Robinson, Ralph Verner	0	D. C.	723 Harvard Street
Rogers, George Cephas	47	N. Y.	1755 Lamont Street
Royer, Charles Edward	55	Pa.	1116 Rhode Island Avenue
Ruch, George Franklin	0	Pa.	1353 Longfellow Avenue
*Ruffner, Walter Staunton	0	Pa.	1333 15th Street
Rush, Lyle Virginia	60	D. C.	119 Carroll Avenue, Ta- koma Park, D. C.
Ruth, Earl Arnim	0	D. C.	1940 15th Street
Ryan, Inez Buffington	30	D. C.	The Naples
St. Clair, Albert Thurston	91	D. C.	Carlisle Court
Salant, Edward Oliver	0	D. C.	3429 34th Place

Name	Credits	Legal	
		Residence	Address
Saunders, Marie Katherine	100	D. C.	3025 P Street
LL.B., 1909, Washington College of Law; M.P.L. 1910, George Washing- ton University			
Saunders, Randall Nash	20	D. C.	1534 6th Street
Schaaff, Martha Elizabeth	26	D. C.	1824 Monroe Street
Schellfeffer, Frank	61	Ill.	1108 New Hampshire Ave- nue
Schick, John Lloyd	12	D. C.	1346 Shepherd Street
Schissel, Frank	40	N. Y.	2002 G Street
Schoenfeld, Margaret H.	52½	D. C.	3448 34th Street
Schulz, George J.	69	D. C.	41 Quincy Place, N.E.
Scott, Howard	71	Md.	1715 Euclid Street
Scriven, Katherine	128	D. C.	2009 N Street
Seibold, Theodosia Darling	102	D. C.	756 Rock Creek Church Road
Selden, Harold F.	3	D. C.	1862 Park Road
Selden, Paul Herbert	73	D. C.	1862 Park Road
Siddons, Frederick Philip Heyward	38	D. C.	1914 Biltmore Street
Smith, Harold A.	0	Mo.	2120 G Street
Smith, Homer Edward	5	Neb.	1736 G Street
Smith, Margaret Fisher	0	D. C.	1336 Harvard Street
Smith, O. Thaxter	36	D. C.	5234 Illinois Avenue
Smith, Talma L.	86	Tex.	1914 Pennsylvania Avenue
Smithson, George Forrest	0	D. C.	1739 P Street
*Snider, Ivan	123	D. C.	Y. M. C. A., Boston, Mass.
Snyder, Carl Francis	100	D. C.	3153 Mt. Pleasant Street
Stanton, Eleanor Winifred	67	R. I.	3323 O Street
Starr, Douglas Oehlkers	0	D. C.	120 Randolph Street
*Stewart, Elliott Marshall	24	Ala.	916 McPherson Place
Stewart, Phyllis Patricia	34	D. C.	1812 Lamont Street
Stickle, Wilmer Franklin	90	N. J.	1916 16th Street
Stiefel, Dorothy Franc	68	D. C.	3157 Mt. Pleasant Street
Stimpson, Charlotte Gor- den	18	D. C.	2141 Wyoming Avenue
Stites, Alvalyn	0	D. C.	1226 Massachusetts Avenue
Stoddard, Florence Jack- son	106	D. C.	2107 S Street
Stout, Jane Norman	89	D. C.	1435 9th Street
Stretch, Clarence L.	30	Conn.	2015 G Street
*Stringham, Emerson	44	D. C.	Bureau of Fisheries
Styer, Ralph A.	50	Pa.	1739 P Street
Summers, Milo W.	0	D. C.	314 7th Street, N.E.

Name	Credits	Legal	
		Residence	Address
*Supplee, Harold Edward	0	D. C.	311 A Street, N.E.
Sweeney, Richard Hurley	0	Md.	1233 Lawrence Street
Taggart, Earl	107	Kans.	Winder Building
Taylor, Olive Rodgers	30	D. C.	447 Randolph Street
Thomas, Lisle	91	Mich.	2104 G Street
Thompson, George Dixon	49½	D. C.	3155 19th Street
*Thompson, Wilbert Felt	0	Kans.	2657 Woodley Road
Timms, Minnie E.	72½	D. C.	The Clermont
Tonne, William Henry	12	D. C.	36 U Street
Towers, Lemuel Appold	17	D. C.	1440 Belmont Street
Townsend, Arthur J.	4½	Ga.	1628 K Street
Tucker, Alice Edna	0	D. C.	802 Massachusetts Avenue, N.E.
*Tunstall, John Ligate	46	D. C.	The Beverly Court
Ulrickson, Esther Margaret	51	D. C.	617 21st Street
Umhau, Emily Mary	20	D. C.	3305 16th Street
Underwood, Eugene, Jr.	28	Ill.	328 Senate Office Building
Van Dolsen, Fred Leon	60	Ind.	712 20th Street
*Vause, Lester Johnson	0	N. C.	627 Maryland Avenue, S.W.
Vaux, Catherine Louise	46	Pa.	1651 Newton Street
Voorhees, Elizabeth Aston	22	D. C.	3456 Newark Street
Waldenmaier, Bernadine	28	D. C.	80 U Street
†Walter, Francis E.	0	Pa.	The Stanhope
Waring, Martha Lucy	0	D. C.	616 Quebec Place
Waring, Paul Edward	0	D. C.	1423 Newton Street
†Warner, William Birt-whistle	0	D. C.	5520 Broad Branch Rd. Chevy Chase, D. C.
*Warren, Francis Emroy	0	D. C.	915 L Street
*Weaver, Lisle McCrea	4½	Ohio	1429 Clifton Street
Weintraub, Emanuel	0	N. Y.	1726 P Street
West, Warren Reed	64	D. C.	304 D Street, N.E.
Whaland, Norman Delbert	0	Mass.	1016 22nd Street
Whitaker, Lorenzo D.	0	D. C.	937 14th Street, S.E.
White, Frank Kiggins	0	D. C.	1237 Irving Street
White, Helen Margaret	30	D. C.	1002 Nichols Avenue
Whitesell, Faris Daniel	0	Ind.	1114 Euclid Street
Whitford, Margaret Elizabeth	0	D. C.	3369 18th Street
Wilbur, Elizabeth Sabrina	79	D. C.	1205 Columbia Road
Wilbur, William Knapp	6	D. C.	1205 Columbia Road
*Wilcox, Edward L.	0	D. C.	907 B Street, N.E.
Wilfley, Margaret Esther	6	D. C.	1483 Harvard Street
Wilson, Elizabeth Webb	85	D. C.	316 B Street, S.E.
Wong, Yuen Su	90	China	615 19th Street

<i>Name</i>	<i>Credits</i>	<i>Legal</i>	
		<i>Residence</i>	<i>Address</i>
†Woodyard, Henry	0	W. Va.	Bellevue Hotel
Wu, Su Ying-Chao (Mrs.)	79	China	1477 Newton Street
Yater, Wallace Mason	74	D. C.	811 8th Street, N.E.
Yohe, Ethel Craigen	6	D. C.	1758 S Street
†Zook, Henry Morris	8½	D. C.	The Kenesaw

BACHELOR OF SCIENCE IN CHEMISTRY

Badger, Cecil Hammond	57	Pa.	509 4th Street
Bailey, William Hiram	0	Texas	2106 First Street
Barclay, Clara Clark	0	Md.	Riverdale, Md.
Bauskett, Helen Virginia	0	D. C.	1201 Girard Street
Beall, Thomas Emmert	0	D. C.	3607 Newark Street
Boyle, William Augustus	90	D. C.	2032 F Street
Brattain, Paul Henry	42	Ind.	420 10th Street
Breneman, Claude Royal	102	Pa.	1014 10th Street
*Brill, Julius	70	D. C.	1530 9th Street
Burton, Lawrence Elmer	32	Ind.	McLean, Va.
Bushland, Sigurd A.	0	Wis.	Dept. Agriculture
Carl, Frederick L., Jr.	0	D. C.	1842 Ontario Place
Cassedy, Edwin Gray	0	D. C.	214 S. C. Avenue, S.E.
*Cheney, Phil S.	0	D. C.	1736 G Street
Claiborne, Samuel Homer	22	D. C.	30 Randolph Place
Coleman, Donald George	0	Kans.	1807 California Street
*Coleman, Malcolm Austin	27	Kans.	Bureau of Animal Industry
Connor, Thomas Francis	0	D. C.	6916 6th Street
Cross, Fred Sylvester	13	D. C.	1100 Vermont Avenue
Diesman, Justin P.	90	Ky.	2130 I Street
Donk, Peter John	120	Canada	1706 F Street
*Dudley, John Fendall	23	D. C.	1410 Girard Street
Faris, Robert Lee, Jr.	9	D. C.	1346 Harvard Street
Finch, Ruy Herbert	37	Ohio	Y. M. C. A.
Finks, Abraham Joseph	107	Maine	1318 L Street
Fogle, Fred M.	50	Minn.	3715 Woodley Road
Ford, Florence Marian	108	Del.	1828 H Street
Foster, Royal Emerson	10	D. C.	1914 I Street
Gallaway, Alfred Earl	74½	Ohio	Y. M. C. A.
Gardner, Hannah Louise	21½	D. C.	3367 18th Street
Gebhart, Arthur	0	Pa.	2140 G Street
Gerber, Simon	18	D. C.	1339 H Street
Gersdorff, Wilbur August	72	D. C.	1825 North Capitol Street
Giese, Harold Nillson	0	D. C.	Walter Reed General Hospital
Gonzalez, William Alexander	11	N. Y.	200 E Street
Gooch, Robert Charles	0	D. C.	1215 Irving Street
Gordon, Daisy	24	Maine	713 19th Street
Hamilton, Bonifant	70	Texas	3135 24th Street, N.E.

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
*Hart, John Allen	26	Texas	709 8th Street, N.E.
Hayhurst, Mayson Eugene	34	Ind.	727 20th Street
*Heimoff, Abraham L	0	N. Y.	Walter Reed General Hospital
Heindl, Raymond Albert	99	Wis.	3315 16th Street
Hellmuth, Everett Albert	70	Va.	108 N. Alfred Street, Alexandria, Va.
Hiller, Samuel	0	N. Y.	922 P Street
Hough, Henry Johnson	38	D. C.	3036 Dent Place
Humphrey, Harvey L.	0	D. C.	420 10th Street
Jackson, Oscar Avelin	16	D. C.	460 O Street
Kain, Helen Gladys	93	D. C.	129 E Street
Karger, Theresa	106	D. C.	2616 Cathedral Avenue
Kirkpatrick, James, Jr.	64	Md.	Chevy Chase, D. C.
Laddon, Misha	10	D. C.	237 H Street N.E.
Lanahan, Leo	0	D. C.	535 5th Street N.E.
Larsen, Archibald, Jr.	136	Wis.	The Plymouth
Le Duc, Percy W.	56	D. C.	3820 4th Street
Levy, Harry	50½	D. C.	806 21st Street
McConkey, Mont	50	D. C.	424 Kenyon Street
Mac Ewen, Thomas Taylor	25½	D. C.	529 Irving Street
Mahoney, John	0	Neb.	1007 13th Street
*Manoch, John Kay	38	D. C.	2034 G Street
Maryman, James Edgar	67	D. C.	1304 Emerson Street, N.E.
Miles, Helen Augusta	108½	D. C.	1418 Rhode Island Ave.
Minor, Carl Olin	14	Iowa	650 6th Street
Morawski, Arthur Louis	0	D. C.	442 Massachusetts Avenue
Murray, Charles Nealy	14½	D. C.	War Department
Nafziger, Raymond Earl	40½	Neb.	813 21st Street
Nugent, Hollis Joseph	10	Va.	218 N. St. Asaph Street Alexandria, Va.
Pahl, Leopold Frederick Wm.	40	D. C.	Congress Heights
Paley, Lewis, Adolphus	95	Iowa	304 C Street
Patterson, Harold Cameron	13	Md.	1828 G Street
Paull, Elizabeth Aldridge	48	Va.	1901 G Street
Phillips, Geo. Washington	106	D. C.	612 18th Street
Proudley, Charles Earl	22	D. C.	21 R Street
*Raedy, Daniel Joseph	0	D. C.	2210 Nichols Avenue, S.E.
Randall, Charles Meritt	0	D. C.	4413 Georgia Avenue
Riley, Albert Austin	63	Ohio	1343 Columbia Road
Robey, Vivian Campbell Kelchner	46	Md.	Rockville, Md.
*Russ, Edward	0	D. C.	4007 New Hampshire Avenue

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
Samsel, Jacob Alva	0	Ohio	216 Rhode Island Avenue
Scales, Freeman Montague	90	D. C.	2813 Quarry Road
Schaffer, Jacob M.	58½	N. Y.	1440 R Street
*Schmehl, Robert P.	0	Pa.	718 18th Street, N.W.
Schmidt, Reuben	100	D. C.	13 H Street
Sculley, Geo. Clifford	8	Texas	1010 K Street
†Sebenius, William H. M.	0	Minn.	The Oakland
*Sherman, Ralph A.	0	Iowa	1016 15th Street, N.W.
Shinnick, Herbert Hanserd	39	Md.	1234 Newton Street, N.E.
Smith, Francis Albert	11	Idaho	2013 G Street
Snider, George Gordon	77	Mich.	928 14th Street
*Steves, Clarence William	0	D. C.	313 New Jersey Avenue, S.E.
Stockett, Norman Joseph	64	D. C.	923 North Carolina Ave- nue, S.E.
†Stockett, William Ed- ward, Jr.	0	D. C.	Bureau of Chemistry
Swartwout, Edith Lillian	4½	D. C.	12 Iowa Circle
Swoboda, Charles Alois	27½	D. C.	Walter Reed General Hos- pital
Tashjian, Myron	26	Mass.	2034 G Street
Tonkin, William Henry	41½	D. C.	2121 15th Street
Valaer, Charles Joyce	0	D. C.	1437 Park Road
Webb, William Thayer	4½	D. C.	2702 36th Street
Whyte, Russell Irving	3	D. C.	2503 14th Street
Willis, Warren Jennison	84	Minn.	Hydrographic Office
Young, James Lawrence	94	D. C.	2509 Wisconsin Avenue

BACHELOR OF SCIENCE IN MEDICINE

*Beck, George R.	4	Md.	Bethesda, Md.
Colonna, Frances Bindon	29½	D. C.	140 B Street, N.E.
Demopoulos, Christos John	38	Greece	452 K Street
Glenn, J. Burton	34	D. C.	1440 Meridian Place
Kennedy, Glen Marion	38½	D. C.	1210 Delafield Place
McChesney, Frank M.	28	D. C.	129 Randolph Place
O'Hara, James T.	0	Wis.	1102 L Street
Pagan, Albert Elwood, M.D., 1912, George Washington Univer- sity	82	D. C.	1624 I Street
*Rosenberg, Louis Charles M.D., 1916, George Washington Univer- sity	0	D. C.	937 Mars Avenue
Stephenson, Frank Tilgh- man	0	Md.	Hyattsville, Md.

PRE-MEDICAL

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Ansley, Urquhart	D. C.	2627 Connecticut Avenue
Cadilla, Arturo C.	P. R.	24 Grant Place
Carmody, John Fulton	D. C.	1211 Vermont Avenue
Carr, Paul John	Va.	706 F Street
*Dale, Timothy Christo- pher	Vt.	1107 13th Street
Dean, Benjamin Franklin, Jr.	D. C.	916 Massachusetts Avenue
Eisinger, Walter George	D. C.	3503 Wisconsin Avenue
Fischer, Aubrey David	D. C.	1744 Lanier Place
Gates, Herbert Stelwyn	D. C.	808 North Carolina Ave- nue, S.E.
*Giblin, Edwin F.	D. C.	1753 Kilbourne Place
*Gonzalez, Luis M.	P. R.	2001 F Street
Jones, Waldo Hillman	D. C.	3625 10th Street
*Rabainne, Virgili	P. R.	2001 F Street
Reed, Fred Cassins	D. C.	804 17th Street
Reed, John Alton	D. C.	608 6th Street
Schwartz, Paul	D. C.	453 Massachusetts Avenue
Stein, Robt. Edward	D. C.	1421 Belmont Street
Sylvester, Nathaniel, Jr.	N. C.	1805 G Street
Warfield, Edgar Ashby	Va.	218 S. Fairfax Street, Alex- andria, Va.
Wilson, Harry Hazan	Mo.	4004 Georgia Avenue

SPECIAL

†Aaronson, Naomi Sheno	D. C.	1543 6th Street
†Aaronson, Sara Solomith	D. C.	1543 6th Street
Adams, George Edwin	Tenn.	Y. M. C. A.
Adams, James M. R.	D. C.	Takoma Park, D. C.
Adkins, (Mrs.) Bertha McNaught	Wis.	Chevy Chase, Md.
Agnew, Ethna Mercedes	D. C.	1791 Lanier Place
Ahlgren, William Bernhard	Ga.	619 19th Street
Allen, Wallace Brown	Md.	Auditors Building
Allen, William Bruce	Ore.	623 19th Street
*Applegate, Mrs. Amelia B.	D. C.	1223 Vermont Avenue
Ashby, Wallace	D. C.	1810 N Street
Ballman, Edna	D. C.	Takoma Park, D. C.
Bartsch, (Mrs.) Signe Charlotte Guerdrum	D. C.	1456 Belmont Street
Baxter, Samuel Ullrich	D. C.	1209 G Street, N.E.
Beall, William Riland	D. C.	1323 Columbia Road
Beasley, William Wiley	Md.	Bethesda, Md.
Beck, Howard Clinton	D. C.	1303 N Street
Beckmyer, Lillie M.	D. C.	1213 Girard Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Beecher, F. Sidney	Minn.	113 W Street
Belfort, E. S. de Magalhaes	Brazil	2148 F Street
Bell, Mabel Hoffman	D. C.	3014 Dent Place
*Bennett, Ava L.	D. C.	118 C Street, N.E.
Berg, Julia E.	D. C.	520 3rd Street, N.E.
*Bernstein, Sidney	D. C.	929 Westminster Street
*Bose, Herbert	D. C.	1923 North Capitol Street
†Braddock, Roberta I.	D. C.	2815 13th Street.
Brandenburg, Millson Frederick	D. C.	1824 Calvert Street
*Brenham, Charles J.	Hawaii	1312 Delafield Place
Brett, Frances Hilliker	D. C.	2215 14th Street
*Brockman, William Everett	Va.	1012 B Street, N.E.
Brooke, John R. J.	D. C.	935 K Street
Broward, Elsie Isabel	D. C.	The Cecil
Brown, Roy Hamilton	D. C.	3533 14th Street
Buckingham, Edgar Cole	D. C.	231 Pennsylvania Avenue, S.E.
Burr, Mary R.	W. Va.	101 North Carolina Ave- nue, S.E.
†Bulla, Beatrice	D. C.	The Elkton
Bullough, J. Van Ness, Jr.	D. C.	122 Tennessee Avenue, N.E.
*Bursynska, Martha B.	D.C.	1437 Irving Street
Byrne, (Mrs.) Joana Helena	D. C.	3511 Center Street
Byrnes, (Mrs.) Alice Stier	D. C.	3238 R Street
†Cable, Philander Lothrop	Ill.	1711 N. Street
Campbell, Jean Thompson	D. C.	301 8th Street, N.E.
Carlson, Vivian	N. Y.	The New Berne
Carnes, Herbert E.	D. C.	305 7th Street, N.E.
Carr, Emily Christian	D. C.	2127 R Street
Carter, Jennie Delle	D. C.	306 C Street
†Chabot, Chas. Frederick	D. C.	1740 P Street
Chambers, Alfred Allen	D. C.	U. S. Geological Survey
Chambliss, Charles, Jr.	D. C.	1425 Monroe Street
Chase, Emily Tivis	D. C.	1727 Q Street
Chase, Joseph Frederick	D. C.	44 M Street
Chistenson, Ethel Grace	D. C.	2112 F Street
Clark, Clyde Francis	D. C.	Indian Bureau
Claveloux, Francis Joseph	D. C.	223 Rhode Island Avenue
Cochran, George Bond	D. C.	1215 19th Street
*Coffee, Maytha D.	D. C.	1806 R Street
*Cohen, Joseph	D. C.	706 4½ Street, S.W.
Collier, A. Walter	D. C.	455 Park Road
*Collins, Adelia C.	D. C.	3227 13th Street
Collins, Elinor W.	D. C.	The New Berne

<i>Name</i>	<i>Legal</i>	
	<i>Residence</i>	<i>Address</i>
Cook, Hortense Harman	D. C.	The Montgomery
Cook, Robert Carter	Md.	Lanham, Md.
†Connelly, Mary A.	D. C.	1438 S Street
†Conner, George Langley	Ohio	5206 Illinois Avenue
Cooksey, Blanche Eugenia	D. C.	1311 Euclid Street
Cox, William Floyd	D. C.	291 Treasury Department
*Croxtton, Grace A.	D. C.	1519 Park Road
†Crawford, Dorothy	D. C.	1607 22nd Street
*Daly, Richard M.	Ark.	1221 Girard Street
*Darwin, Mary	D. C.	1524 28th Street
*Davis, Harold Reinberg	D. C.	3479 Holmead Place
*Dawson, Mary Peter	Md.	Rockville, Md.
de Lashmutt, Rebekah Leiter	D. C.	1438 N Street
Delawder, John Lurman	D. C.	The Fairfax
*Dessez, Charlotte Caroline	D. C.	The Ontario
Donaldson, Helen M.	D. C.	1499 Irving Street
Drury, Joseph F.	Mass.	1 DuPont Circle
Du Bose, Harriet Elizabeth	D. C.	1838 Calvert Street
DuPuy, (Mrs.) Ada Orme	D. C.	2633 Adams Mill Road
Easdale, Janet V.	Mich.	The Wentworth
Ebling, Samuel Gale	Ohio	1102 Virginia Avenue, S.W.
Eddy, Grace Marie	D. C.	2140 P Street
Effinger, Katherine	D. C.	1904 Florida Avenue
Eggert, Elisabeth Martha	D. C.	1499 Irving Street
Egli, Clara K.	D. C.	1616 3rd Street
Ellison, Minnie Duffey	D. C.	West Falls Church, Va.
*Farrell, Agnes M.	D. C.	1424 Clifton Street
†Feinberg, Simeon Mishel	N. Y.	1829 Ontario Place
Fellows, J. Howard	D. C.	5114 Wisconsin Avenue
Fielder, Elizabeth Bunnell	D. C.	The Cairo
Fields, Frank E.	D. C.	1624 30th Street
Finch, Elmer Harrison	Mich.	U. S. Geological Survey
Fisher, Mary Ray	D. C.	1223 Girard Street, N.E.
Fletcher, Travis Leigh	Va.	Fairfax, Va.
French, William Thomas	Va.	Cherrydale, Va.
Fryxell, Winnie Cecelia	Ill.	1401 Columbia Road
*Fullaway, Charles Hudson	D. C.	The Ontario
*Fullaway, Gertrude Knights	D. C.	The Ontario
Gardner, Ella	D. C.	3367 18th Street
Gatley, (Mrs.) H. Prescott	Md.	Chevy Chase, Md.
Geer, Marguerite A.	N. Y.	1523 22nd Street
*Gerbert, Gertrude	D. C.	1334 Fairmont Street
Gibson, Katherine M.	D. C.	1459 Monroe Street
Gladstone, Harry	D. C.	1748 8th Street
Goforth, Herndon Ware	D. C.	2112 F Street
Gordon, Mildred	Mass.	1726 15th Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Gray, Shirley E.	Ill.	1742 Riggs Place
Green, Walter Charles	Iowa	1016 15th Street
*Hall, (Mrs.) Rose C.	Ore.	436 M Street
Haney, Laura I.	Minn.	1918 18th Street
Hardesty, Anna Isabella	Ky.	941 H Street
*Harris, Arthur Thomas	D. C.	Geophysical Laboratory
Heitmuller, (Mrs.) Anton Roeder	D. C.	1307 14th Street
Herron, (Mrs.) Lillian Bishop Young	D. C.	1706 Oregon Avenue
Hicks, William Brooks	Tex.	Y. M. C. A.
Hildebrand, Jesse Richardson	D. C.	1741 Lanier Place
Hinkel, Anna A.	D. C.	119 C Street, S.E.
†Holland, Fred Y.	D. C.	1100 Vermont Avenue
Holmes, Grace Bruce	D. C.	Takoma Park, D. C.
Holt, Ernest G.	D. C.	2919 South Dakota Avenue
†Hopkins, Helen Hill	D. C.	1325 Park Road
Horn, Millard Jacob	D. C.	3056 M Street
†Hoult, Geneve Frances	D. C.	1401 Massachusetts Avenue
Hutchison, Mary Adelaide	D. C.	4113 Ingomar Street
†Idelson, Michael N.	Colo.	Bureau of Standards
Ingels, Clarence Webster	Cal.	1420 Rhode Island Avenue
*Jackson, Anna L.	Va.	National Geographic Society
Jackson, Florence Winifred	D. C.	3519 14th Street
Jaques, Laura	D. C.	17 U Street
Jelleff, (Mrs.) Eleanor Porter	D. C.	3360 Mt. Pleasant Street
*Johnson, Caroline Seaton	D. C.	1816 N Street
Johnson, Catherine	D. C.	2108 16th Street
Johnson, (Mrs.) Grace Dean, S.B., 1908 New York Uni- versity	Md.	Bethesda, Md.
Johnson, Loren Bascom Taber, M.D., 1900, Georgetown Uni- versity	D. C.	2108 16th Street
*Kernan, John Cleary	D. C.	419 M Street
*Khan, Mohsen	Persia	1719 Connecticut Avenue
Langhorne, F. Paul	D. C.	509 Randolph Street
Laskey, (Mrs.) Pauline L.	D. C.	1657 Park Road
*Law, Mary Vanya	D. C.	552 Columbia Road
Lawson, Edward Burnett	D. C.	206 13th Street
Lewis, Floyd Emerson	D. C.	1103 Florida Avenue, N.E.
Lewis, May Valiant	D. C.	1714 Johnson Ave.
Lide, Lewis M.	D. C.	219 14½ Street, N.E.
Lisner (Mrs.) Laura Hartman	D. C.	1723 Massachusetts Avenue
†Little, John Franklin, Jr.	D. C.	131 A Street, N.E.
Lockwood, Mrs. Lena	D. C.	1860 California Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Lockwood, Lindon LeRoy	D. C.	Takoma Park, D. C.
Lockwood, William DeRush	D. C.	1121 Euclid Street
*Lofton, Robert Elwood	Ind.	3601 13th Street
Loonie, Mary Margaret	D. C.	The Cecil
Love, Ellen Lane	D. C.	910 Massachusetts Avenue
Lowry, Mamie	D. C.	1472 Harvard Street
*Ludick, Roy E.	D. C.	713 19th Street
*Ludlam, Mrs. Clarissa M.	D. C.	6314 Connecticut Avenue
Mabbott, Douglas C.	D. C.	2919 South Dakota Avenue, N.E.
†Macatee, Robert Berry	Va.	1415 Massachusetts Avenue
McCann, Joseph Henry	D. C.	1305 3rd Street
*McCarthy, Thomas Henry	Colo.	1628 K Street
McClintock, Laura Madeline	Pa.	Bureau of Fisheries
McCorkle, Harry A.	D. C.	Interstate Commerce Com- mission
McCoy, John Scott	D. C.	312 McLean Avenue, S.W.
*McCray, Mrs. Adele Wilson	D. C.	The Chevy Chase
McGee, Mary L.	Utah	300 East Capitol Street
†Mac Intosh, Lulu M.	D. C.	821 North Carolina Ave- nue, S.E.
McIntyre, Joseph D.	D. C.	3048 M Street
McKelvy, Margaret	N. Y.	Dewey Hotel
*McMullen, Edward Gerard	D. C.	487 Michigan Avenue, N.E.
*McShane, Kate	Miss.	1433 L Street
Magee, Lottie P.	D. C.	227 B Street, N.E.
Mallon, Mary Elisabeth	D. C.	Box 42, Route 4, Wash- ington, D. C.
Mantz, Cyrus, Jr.	D. C.	511 11th Street
†Marcus, Joseph	Tex.	1225 8th Street
Marshall, Valeria	D. C.	1519 Park Road
*Marsteller, John Asbury	W. Va.	945 K Street
Martin, Margaret Elizabeth	D. C.	417 Hobart Place
Masson, Clement B.	N. Y.	Takoma Park, D. C.
Matteossian, Edward	Turkey	25 R Street, N.E.
*Mavrondi, Constantin	Turkey	1711 Connecticut Avenue
Maxwell, Joseph Ramsey	D. C.	2311 18th Street
Mayes, Dorothy Fellows	D. C.	1852 Ontario Place
Mecutchen, Laura Bartlett	Md.	2017 I Street
*Melander, V. Rosa	Conn.	1201 M Street
Melander, Walfrid Agnar	Conn.	1201 M Street
Menagh, Charles Schick	D. C.	132 12th Street, S.E.
Middleton, Ellis Spear	D. C.	1834 Lamont Street
*Middleton, Isabel	D. C.	1736 Corcoran Street
Miner, Helen	Ohio	1613 Irving Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Mirick (Mrs.) Charlotte Brown	D. C.	1638 R Street
Mirick (Mrs.) Edith Graham	D. C.	1638 R Street
†Moore, Ardala	D. C.	111 Tennessee Avenue, N.E.
*Morris, David	N. Y.	1522 U Street
Morris, Nelle S.	Ky.	1311 K Street
†Morrison, Harold	Ind.	Federal Horticultural Board
†Muhl, Elise	Switzer-land	2306 Massachusetts Avenue
Muller, Albert Thomas	Cal.	487 Michigan Avenue, N.E.
Munroe, Treadway Barker	D.C.	1325 H Street
*Musser, Ada Cary	D. C.	The Coywood
Muurling, John Henry	Holland	1229 12th Street
*Nelson, Ina Forrest	W. Va.	1308 Belmont Street
*Nelson, James Lewis	Ariz.	2013 H Street
Neumann, Frederika	D. C.	701 A Street
A.B., 1915, George Washing- ton University		
†Newman, Harrey Anderson	D. C.	808 Maryland Avenue, N.E.
Newton, Mrs. Winifred Cattle	D. C.	2610 Garfield Street
Nicklin, Russel Granville	Va.	516 District Building
Norman, Caroline Blair	Miss.	916 17th Street
†Norton, Anna B.	D. C.	804 Rhode Island Avenue
Nyman, Mrs. Hazel Lombard	D. C.	1638 16th Street
*O'Brien, Katherine L.	D. C.	3816 Keokuk Street, Chevy Chase, D. C.
O'Donnell, Florence Catherine	D. C.	1730 16th Street
Ogus, Mary	D. C.	914 R Street
Ohsol, Johann Gottfried	D. C.	Federal Trade Commission
†Olmstead, Ruth H.	D. C.	Falkstone Courts
†Ormond, Roy B.	Wis.	809 21st Street
Owen, William Otway Chisholm	D. C.	2719 Ontario Road
Padgett, Katherine Dement	D. C.	1647 Lamont Street
Palmer, Lewis Franklin	D. C.	655 B Street, N.E.
*Parker, Gerald L.	D. C.	929 Maryland Avenue, N.E.
*Parker, Sara Jay	D. C.	The Farragut
Parrish, Margaret Florence	Ill.	The Wentworth
Partington, Mrs. Elizabeth Hamilton	Md.	Forest Glen, Md.
Pawling, Jesse	Pa.	2604 University Place
*Payne, Oscar Vosburgh	D. C.	26 Carroll Avenue, Ta- koma Park, D. C.
Peary, Marie Alinghite	D. C.	1831 Wyoming Avenue
*Peck, Julia Lockwood	D. C.	2006 Columbia Road
Peirce, Lottie	Md.	229 Pennsylvania Avenue, S.E.

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Pierce, Jr., Carroll	Va.	113 N. Alfred Street, Alexandria, Va.
*Postley, Olive C.	D. C.	1362 Irving Street
Power, James Reginald	D. C.	1744 F Street
*Price, Nellie Virginia	Texas	1510 17th Street
Quigley, Elizabeth	D. C.	34th & Highland Avenue, Cleveland Park
*Ramey, Paul Gates	D. C.	617 14th Street
Randall, Walter H.	D. C.	2413 Franklin Street, N.E.
Rawlins, George F.	N. C.	1322 Vermont Avenue
Reitzel, Albert E.	N. C.	1302 L Street
†Rhoads, Max	Va.	1726 P Street
Rider, Helen	D. C.	1009 Spring Road
*Ridgeway, Ethel Julia	D. C.	25 Grafton Street
*Riley, Helen Petrea	D. C.	2141 LeRoy Place
*Ristine, John C.	Va.	Department of Agriculture
Root, Armina Manning	D. C.	1814 Ingleside Terrace
Rose, Mrs. Ludora L.	D. C.	1808 L Street
Rosendale, Amelia	D. C.	2123 First Street
Rutter, Mrs. Janet Stevens	D. C.	1442 Belmont Street
Safer, John M.	Wis.	1205 N Street
Salt, Francis J.	D. C.	617 9th Street
Scala, Norman P.	D. C.	918 South Carolina Avenue
Schafer, Jr. William Lewis	Va.	427 Wilkes Street, Alexandria, Va.
†Schelski, Laura V.	Ind.	3319 17th Street
*Schenck, Harold Edward	D. C.	300 10th Street, N.E.
†Schiffer, Marie V.	D. C.	U. S. National Museum
Schnieder, Florence	Va.	The Cairo
*Schroeder, Sarah Franklin	D. C.	1816 N Street
*Scriven, C. Elizabeth	D. C.	2009 N Street
Sehler, Elizabeth	Mich.	1513 L Street
Shaw, Margaret W.	D. C.	3604 Newark Street
Shefferman, Nathan William	D. C.	719 11th Street
Sherman, Denis Henry	Ill.	5734 13th Street
Shuman, Mrs. Mary Barbar Arandall	N. J.	3519 14th Street
Silver, Ormond	D. C.	1316 I Street
*Silvester, Jane Boyd	D. C.	2005 Kalorama Road
†Simmons, Rush Nelson	Minn.	1443 Massachusetts Avenue
Simpson, Mary Kirk	Va.	1212 34th Street
Skelton, Gertrude Elizabeth	Mich.	1325 M Street
Smith, Adelaide	D. C.	637 F Street, N.E.
*Smith, Sarah	D. C.	912 I Street
Smith, William Montgomery	D. C.	915 20th Street
Snowden, Elizabeth Victoria	D. C.	1818 Ingleside Terrace

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Spear, Albert Austin	D. C.	4 6th Street, N.E.
Stager, Cecil Gayman	Pa.	1756 Q Street
*Stalt, Jr., Arthur Rolston	N. J.	The Maury
Starkweather, Paul	D. C.	621 6th Street
*Steel, Mrs. Estelle Thomas	D. C.	The Cairo
*Stein, Hattie	D. C.	The Concord
*Stein, Hilda B.	D. C.	The Concord
Stevens, Mary Channell	D. C.	1760 Euclid Street
Stewart, Charles H.	D. C.	1922 H Street
*Stone, Edna S.	D. C.	1618 Rhode Island Avenue
Stone, Mary P.	Md.	Interstate Commerce Com- mission
Stromberger, Julia Bowie	D. C.	1325 Massachusetts Ave- nue
Sturtevant, Georgia Anna	D. C.	2233 Q Street
Sullivan, James Francis	Mass.	412 New Jersey Avenue, S.E.
Sun, Tsuli	China	2001 19th Street
*Sutter, Albert	D. C.	729 20th Street
*Swanson, Elisabeth	D. C.	1732 Lamont Street
*Taylor, Jane Brockenbrough	W. Va.	1817 F Street
Tepper, Benjamin Lionel	N. J.	4111 Garrison Street
†Tesche, Leo M.	D. C.	508 I Street
Thompson, Belle Whiting	D. C.	1421 Columbia Road
Thompson, Roy Anton	Minn.	2134 F Street
Tibbets, Lyman Brooks	D. C.	1636 17th Street
Tibbetts, Mrs. Luella U.	D. C.	1213 Vermont Avenue
Toner, Carrie Estelle	D. C.	1814 Ingleside Terrace
Tourelle, Henriette	D. C.	1348 Irving Street
*Townsend, Helen Tyler	D. C.	2055 Park Road
Towson, Leontine Ingle	D. C.	400 M Street
Trundle, Lewis Shumate	D. C.	79 Seaton Street
†Tuben, Gilbert A.	Wash.	225 1st Street, N.E.
Umstadt, Roy Lynn	Tenn.	63 K Street
Viehmann, Catherine Marie	D. C.	456 K Street
Vint, Roger Alfred	Mass.	916 Massachusetts Avenue
Volstead, Laura	D. C.	The Brighton
Vosburgh, Eva Belle	Mich.	1400 K Street
Wade, Roy Walter	Mo.	2439 N Street
Wall, Adelaide Dorothy	D. C.	4009 14th Street
Walz, Berta	Ger- many	1704 18th Street
*Wang, Yates	China	2443 18th Street
Wang, (Mrs.) Mae	China	2443 18th Street
Warner, Wellman Joel	Cal.	622 Lamont Street

Name	Legal	
	Residence	Address
Webster, (Mrs.) Anna	D. C.	The Brighton
†Percy, Wedlake	D. C.	707 Portland Street
Weimer, Joseph Harry	Md.	The Fairfax
Weinstein, Meyer	D. C.	3410 M Street
*Weissblatt, W. Benjamin	Pa.	1219 Connecticut Avenue
*Wells, John Raymond	Va.	East Falls Church, Va.
*West, Harvey Warren	D. C.	1909 G Street
†Whaley, Frank Lauder	Mo.	712 20th Street
Whaley, Luella Ruth	W. Va.	440 4th Street
Whyte, Eunice	D. C.	935 M Street
Wickey, Norman Jay Gould	D. C.	3124 Dumbarton Avenue
Willard, Nana Beatrice	D. C.	623 M Street
Willcox, Emma P.	D. C.	1901 18th Street
*Williams, Alice Sickler	D. C.	1901 18th Street
Williamson, Margaretta A.	D. C.	1031 Park Road
Wilson, Edna Emilv	D. C.	1317 East Capitol Street
Wilson, Mrs. Flora Street	D. C.	The Kenesaw
Wolf, George Peter	Pa.	3131 11th Street
Wolf, Hattie	D. C.	413½ Franklin Street
*Wolf, May	Russia	636 22nd Street, N.W.
Wolford, Mary George	D. C.	1150 North Capitol Street
*Wood, John Williamson	D. C.	2636 Garfield Street
Wyatt, Oscar William	D. C.	Y. M. C. A.
Yamamota, Sen	Japan	Japanese Embassy
Yoakan, Mrs. Annie Thayer,	D. C.	2023 O Street
A.B., 1900 Bryn Mawr Col- lege		
Young, Augusta Freeman	N. Dak.	1801 K Street

COLLEGE OF ENGINEERING

CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE IN
ARCHITECTURE

Name	Credits	Legal	
		Residence	Address
*Brandt, Harry Andrew	0	N. Y.	Lock Raven Hotel
Calkin, Frederick Arthur	68	Mass.	1236 Euclid Street
Carey, John Joseph	18	D. C.	1703 North Capitol Street
Carpenter, Clarence For- rest	85	Ind.	623 19th Street
Carrigan, William Thomas, Jr.	0	Md.	601 Evans Building
Chapman, John Holbrook	40	D. C.	3323 Wisconsin Avenue
*Cobb, John Devine	0	D. C.	1539 I Street
Conboye, William Thomas	59½	Cal.	64 U Street

Name	Credits	Legal	
		Residence	Address
Coulon, Eugene Enert	58	La.	1801 K Street
Daidy, George Augustine	40	Mass.	1324 Vermont Avenue
Edwards, Thomas Rives	33	D. C.	243 10th Street, N.E.
*Leland, Leonard Jesse	11	D. C.	The Arundel, 6th & A Streets, N.E.
Lippitt, Edward Gardner	18	D. C.	125 11th Street, N.E.
Michel, Irving	0	Conn.	222 Q Street
Scott, Hunter Dunlap	0	D. C.	2621 University Place
Smith, Clarence Adrian, Jr.	4	Md.	Riverdale, Md.
Starr, Arthur Price	26	N. Y.	120 Randolph Place
Taylor, William Waverly, Jr.	14	D. C.	404 B Street, N.E.

CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE IN CIVIL
ENGINEERING

Abramson, Nathan	99	D. C.	1001 New Jersey Avenue
Bernstein, Edgar Herbert	70	Tex.	Cherrydale Rural Station Washington, D. C.
Blakely, Charles Francis	41	Neb.	Y. M. C. A.
Bowen, Seth Thomas	118	Ohio	War Department, Room 64
Brandes, Clarence Alfred	0	D. C.	1527 12th Street
Brooks, Clay Evans	4	D. C.	57 U Street
Buchanan, James Allison	59	D. C.	901 M Street
Capper, Harry Walter	83	Va.	Library of Congress
Chamberlain, Guy Carle- ton	35	N. Mex.	718 18th Street
Clarke, Herbert Charles Oliver	35	Cal.	719 15th Street, Room 310
*Cochran, Harry Kenyon	0	Mo.	3515 13th Street
Coleman, Clark Weaver	0	D. C.	1408 Girard Street
Davis, Watson	70	D. C.	900 11th Street, S.E.
Deck, Frederick Webster	64	D. C.	1010 B Street, S.E.
Draper, Chester Robert	33	D. C.	1362 Parkwood Place
Dutton, Harold Harrison	23	D. C.	1721 Kilbourne Place
Ervin, Guy	22	Iowa	537 Shepherd Street
Ewing, Paul Albert A.B., 1907, University of Nebraska	59	D. C.	1323 Clifton Street
Farkash, Edward	26	N. Y.	1522 U Street
Funkhouser, Charles Mun- roe	56	N. J.	Y. M. C. A. Building
Getty, Graham Earl	0	Md.	Silver Spring, Md.
Hance, William Slocum, Jr.	70	D. C.	2031 Park Road
Harsch, Raymond	26	Ohio	1318 Maryland Avenue, N.E.

Name	Credits	Legal	
		Residence	Address
Hauser, Leon Aaron	80	N. J.	1421 Harvard Street
Huse, Emery	0	Mass.	2725 13th Street, Brook- land, D. C.
*Johnson, Thomas Rogers	6	D. C.	2433 Ontario Road
Jones, Luther W.	0	S. C.	221 East Capitol Street
Kluge, Russell Ormond	32	D. C.	606 Lamont Street
Lenovitz, Jacob Leon	34	Md.	R. F. D. No. 3, Rockville, Md.
Lewis, Robert S.		D. C.	3316 Mt. Pleasant Street
*Lynch, Charles Rust	3	Va.	1810 N Street
McEntee, Albert Arthur		Ill.	2124 P Street
Marks, Frank Henry	0	D. C.	1002 Fairmont Street
Miller, Odver Harrison	72	Okla.	1739 P Street
Morse, Edmund Cooper	10	Va.	723 19th Street
†Reid, James Osborne	15	La.	1813 F Street
Richard, Charles Bailey	122	D. C.	1842 Calvert Street
Rose, Leonard Julian	68	D. C.	708 19th Street
Schmitt, Edwin Alexis	62	D. C.	305 Southern Building
Scott, Walter Clifford	2	D. C.	649 B Street, N.E.
Smith, Edgar Donald	0	D. C.	1246 Irving Street
Stroop, David Vincent	50	Md.	1729 New York Avenue
*Sweeney, James J.	38	D. C.	1210 North Capitol Street
*Taylor, Mark	4	Va.	U. S. Engineer's Office, 28th Street and Pennsyl- vania Avenue
*Teal, Leon DeHerst	32	N. J.	1049 Munsey Building
Teller, Leslie Wayne	70	Mich.	2112 G Street
Turoff, Louis Webster	0	D. C.	1804 2nd Street
Varney, Forrest Franklin	55	Wis.	R. F. D. No. 4, Washing- ton, D. C.
Walters, Marion Irvén	32	D. C.	3228 Warder Street
Ward, Heman Smith	32	D. C.	1321 11th Street
Wilder, William Franklin	27	N. J.	1523 22nd Street
Wingate, Abram Reber, Jr.	32	D. C.	2641 Garfield Street
Yingling, Clinton Kemp, Jr.	7	D. C.	1105 17th Street
Zobel, Carl G. F.	0	D. C.	701 Rock Creek Church Road

CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE IN
ELECTRICAL ENGINEERING

Biggs, Zeon Alvin	36	Md.	1730 Euclid Street
Boyd, Joseph Reginald	5	D. C.	1360 Parkwood Place
Brown, George M.	23	N. Y.	In care of U. S. Soldiers Home

Name	Credits	Legal	
		Residence	Address
*Butler, Clarence Wells	0	Mo.	1421 Harvard Street
Campbell, Arthur B.	97	D. C.	126 Rhode Island Avenue. N.E.
Cooper, Dana Cockrill	4	D. C.	807 7th Street, S.W.
Cottrell, Casper Lehman	16	Pa.	2140 G Street
Faist, Carl J.	22	Mich.	1916 16th Street
Fischer, Melvin Ferdinand	119	D. C.	325 E Street, N.E.
Franklin, Samuel Glass	0	D. C.	Coast Guard, Munsey Building
Godfrey, Clarence Mortimer	6	D. C.	915 14th Street, S.E.
Greeley, Arthur Edward	0	D. C.	2632 Garfield Street
*Hagaman, Jonathan Fletcher	0	N. J.	1310 L Street
Harding, Raymond Barton	49	Va.	626 G Street, S.W.
Harrison, Thomas Randolph	89	Va.	3515 14th Street
Kalupy, Harry Harold	20	La.	Indian Office
LL.B., M.P.L., 1914, Georgetown University			
*Lederer, Melvin Edgar	4	D. C.	1243 H Street, N.E.
Michael, Spencer B.	42	D. C.	18 New York Avenue, N.E.
Orlando, Vincent James	24	D. C.	234 1st Street, S.E.
Ringle, David, Jr.	0	Ore.	2032 I Street
Shoemaker, Fred Eugene	68	D. C.	147 T Street
Snow, Harold Arthur	4	D. C.	1656 Newton Street
Steltz, Peter H., Jr.	0	D. C.	611 North Carolina Avenue, S.E.
Strang, Harry Ledden, Jr.	4	D. C.	2020 1st Street
Tennyson, Alfred Lionel	34	D. C.	1512 30th Street
Thompson, George Fred- eric	0	Kan.	57 U Street
Wrenn, Paul George	0	N. Y.	Apt. 37, 1428 R Street

CANDIDATES FOR THE DEGREE OF BACHELOR OF SCIENCE IN
MECHANICAL ENGINEERING

Alexander, David Lee	5	D. C.	436 Manor Place
Barrow, John Ralph	4	D. C.	820 K Street, N.E.
*Bassaches, Jacob Thomas	44	N. Y.	1767 T Street
Bradley, Maurice Byron	68	D. C.	60 S Street
Brady, John Bernard	30	Md.	700 10th Street
Clark, Robert Loui	0	Pa.	1865 Park Road
*Clarkson, Harry Irving	2	D. C.	909 7th Street, S.E.
Clayton, Harold Oliver	26	D. C.	715 Lawrence Street, N.E.

<i>Name</i>		<i>Legal Residence</i>	<i>Address</i>
Cole, Francis Gruelle	4	D. C.	1900 8th Street
Cribbs, John C.	0	Mich.	721 19th Street
Cruikshanks, Benjamin Carpenter	69	D. C.	1628 K Street
Degnan, George A.	83	Pa.	450 M Street
Delany, James Leroy	21	D. C.	600 Park Road
Dement, George Earl	28	D. C.	937 5th Street, N.E.
Dempsey, James Bryan	0	Kan.	605 Taylor Street
Disney, Lindsay Pettit	4	D. C.	1212 B Street, S.E.
Dowell, Edgar Franklin	38	Va.	Y. M. C. A. Building
Ehrman, Herbert Allan	83	Md.	1435 Clifton Street
Elmore, Floyd Deford	0	D. C.	301 Rittenhouse Street
Eno, Arthur R.	8	D. C.	1330 U Street, S.E.
*Esher, Raymond E.	4	D. C.	609 Florida Avenue
Fihe, Albert Joseph A.B., 1905, St. Xavier College		Ky.	2307 Washington Circle
Filgate, John Thomas	0	D. C.	2451 18th Street
Folger, Willie Belt	18	S. C.	1844 Columbia Road
Fowkes, Roy T.	0	Pa.	2131 4th Street, N.E.
France, Ramon Denison	16	Tenn.	405 M Street, N.E.
Heald, Roy Haines	77	D. C.	1334 Riggs Street
Hummer, Aubrey Eugene	40	D. C.	1131 8th Street, N.E.
Hummer, James Earl	4	D. C.	1131 8th Street, N.E.
James, William Stubbs	138	D. C.	1504 R Street
Johnson, Clair Villiers	36	Iowa	1532 A Street, N.E.
Karnes, James Carberry	0	D. C.	21 R Street, N.E.
Lange, William Endres	2	D. C.	1116 Girard Street
Marston, Wesley	0	Mich.	1527 Rhode Island Avenue
Martin, Frank Whitcher	58	D. C.	60 M Street
Maryman, Raymond F.	4	D. C.	1304 Emerson Street, N.E.
*Nettleton, Walker Orin	24	D. C.	1746 Euclid Street
†Newman, Irving Thomas Chapman	0	Va.	Cherrydale Rural Station, D. C.
Paland, Ernest Otto	6	D. C.	1026 K Street, N.E.
Pew, Paul Brown	0	D. C.	3112 18th Street
Pope, George Samuel	132	D. C.	1321 East Capitol Street
Richard, Frank Thomas	96	D. C.	1842 Calvert Street
Rollwage, Edgar A.	0	Ohio	Y. M. C. A. Room 626
Rose, Clarence A.	0	N. Y.	617 Upshur Street
Spalding, John Dominic	29	D. C.	413 12th Street, N.E.
Stayton, Thomas Truxtun	0	D. C.	The Portland
Stein, Paul Wager	0	D. C.	1421 Belmont Street
Stewart, John Malcolm	3	Va.	Ballston, Va.

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
Strawn, Floyd L.	18	D. C.	1408 Girard Street
Sullivan, George William	0	R. I.	600 Park Road
Ward, William Robinson, Jr.	0	D. C.	1346 Monroe Street
Wilson, Joseph Henry	84	Pa.	1436 W Street
*Wilson, Steven Bayard	40	Mass.	1104 Vermont Avenue
Windle, Edward Howell	12	Pa.	3601 14th Street
Woodward, Francis Albert	121	D. C.	751 Quebec Street

SPECIAL

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Almon, Harry Foster	Mont.	719 11th Street
Ambrosi, Hugo Faust	D. C.	647 G Street, S.E.
Ashford, Linden Kent	D. C.	48 Bryant Street
*Ball, Charles Herring	D. C.	1612 Hobart Street
Bean, Barton A., Jr.	Pa.	1231 Irving Street, N.E.
Benson, Howard Hartwell James Graduate U. S. Naval Academy, 1909	Md.	The Wyoming
†Birthright, Milton Parkins	D. C.	74 T Street
Bowyer, James Ernest	S. Dak.	227 East Capitol Street
Browne, Leslie Howard	D. C.	1112 13th Street
*Burgess, James Irving	D. C.	403 11th Street, S.E.
Burgess, Harry Alfred A.B., 1914, Syracuse University	N. Y.	1200 Shepherd Street
Butterfield, Arthur Edward	Iowa	1680 Irving Street
Byrne, John Francis	R. I.	1519 Vermont Avenue
†Cantor, Louis	N. Y.	1726 P Street
*Charters, James Joseph	Minn.	332 Maryland Avenue, N.E.
*Clark, William Douglas	D. C.	1320 New York Avenue
Cockrell, Herbert Courtlan	D. C.	1316 Girard Street
Conlon, Thomas Aloysius	D. C.	3512 O Street
Covel, Robert Owen	Okla.	200 A Street, S.E.
*Cramer, R. L.	D. C.	20 S Street
Craton, Richard Washington, Jr.	D. C.	1410 Girard Street
*Daubin, Freeland Allyn Graduate U. S. Naval Academy, 1909	Mo.	2131 Florida Avenue
*Dawson, Frederick Y.	D. C.	13 3rd Street, N.E.
†Dillard, Samuel Moore B.S. in Arch., 1913, Alabama School of Technology	N. C.	The Maury

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Dixon, Edwin Malcolm	N. J.	Y. M. C. A.
Doan, Verne Edward	Mich.	1419 Chapin Street
Dougherty, Horace DeBlois	Md.	Annapolis, Md.
*Elgin, Robert Anderson	Ky.	916 15th Street
Eliason, Raymond Orlando	D. C.	Riverdale, Md.
*Finn, Matthew Edward	D. C.	1034 Bladensburg Road, N.E.
Freark, Clarence Hobart	Ill.	1819 F Street
Fuhrman, Arthur John	D. C.	305 The Congressional
Gibbons, Charles David	D. C.	1421 Columbia Road
Grabau, Edgar George	D. C.	1802 G Street
B.S., 1906, Cooper Union		
Graham, Harry	Tenn.	453 Lamont Street
Gray, Walter Thomas	D. C.	27 Maple View Place, S.E.
*Harding, Lowell S.	Md.	401 Wilkins Building
Harris, Beverly Humphreys	D. C.	1943 Biltmore Street
*Hendricks, Gorman M.	D. C.	320 5th Street, S.E.
Henrickson, Henry Brenton	R. I.	3021 Macomb Street
Hunt, Paul Jamison	D. C.	1204 Girard Street
*Ingham, James Kyle	D. C.	1730 M Street
*Ise, Walter J.	D. C.	1405 6th Street
LL.B., LL.M., Yale Uni- versity		
Jettmar, Emil	Bohemia	918 18th Street
Johnson, Marshall Harrison	D. C.	3106 Mt. Pleasant Street
†Johnson, Martin M.	Kan.	1907 G Street
Kaiser, Edward J.	D. C.	331 13th Street, S.E.
Karrick, James Lawson, Jr.	D. C.	2120 Bancroft Place
Kennedy, Charles Gordon	D. C.	3409 Mt. Pleasant Street
Ksanda, Charles	D. C.	918 18th Street
*Langenberg, Arthur H.	N. J.	1736 G Street
*Larsen, Alvin	Wash.	2127 F Street
Lewis, Stewart P.	Pa.	1736 G Street
†Littell, Nelson	Ind.	1741 F Street
Little, Robert Ethan	La.	702 19th Street
*McGregor, Kenneth Campbell	D. C.	151 Adams Street
Macklin, Thomas	N. Y.	U. S. S. Reina Mercedes, Annapolis, Md.
*McNutt, Nellie Irine	Md.	1435 Clifton Street
A.B. 1908, Goucher College		
Mains, Gerard Harper	Mich.	609 Y. M. C. A.
S.B., 1914, Michigan Agri- cultural College		
*Mankey, W. Arthur	S. D.	2146 F Street
Maxim, Ezra Nelson	Mass.	150 11th Street, S.E.

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Maxson, Louis Archer A.B., 1913, S.M., 1915, George Washington University	Md.	325 Patent Office
Mehlfelt, James R.	Pa.	136 12th Street, S.E.
Mehurin, Ellen Louise	Va.	2031 F Street
†Miller, Ralph F.	Pa.	332 Maryland Avenue, N.E.
*Mitchell, Herbert Henry	N. J.	1736 G Street
Mitchell, Nolan Dickson B.C.E., 1908, University of Arkansas; B.S., in Arch. Eng., 1910, University of Illinois	Fla.	1513 Meridian Place
*Moody, Theodore Lyman B.S. in C.E., 1911, George Washington University	D. C.	1512 P Street
Morrison, Lloyd Albert	D. C.	3211 O Street
Muir, Arthur	Tenn.	2123 F Street
*Negrotto, Sidney	La.	Navy Department
Paterson, George D.D.S., 1912, Georgetown University	N. Y.	1441 Girard Street
Platt, Frank Liming	Pa.	1736 G Street
*Quinn, Frank Joseph	D. C.	Anacostia, D. C.
*Raywid, Leo S.B., 1909, C.E., 1914, Cooper Union	N. Y.	1818 Belmont Road
*Reed, Frank Simon	D. C.	323 H Street, N.E.
Riggs, Loffa Washington	Tenn.	306 C Street
Roberts, Harold Chester	Va.	1307 Clifton Street
*Robinson, George Albert S.B., 1912, Massachusetts Institute of Technology	Pa.	1761 U Street
Ryan, Alfred Edwin	D. C.	1368 Spring Road
Scharf, Edward Galura	Ala.	725 Woodward Building
Schmied, James William S.B., 1910, Ohio Northern University; LL.B., 1915, George Washington Uni- versity	Ohio	1434 Harvard Street
Shafroth, John Franklin, Jr. Graduate, 1908, U. S. Naval Academy	Colo.	1884 Columbia Road
Sharp, Alexander Graduate, 1906, U. S. Naval Academy	D. C.	2268 Cathedral Avenue

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Shattyn, Henry S.B., 1913, College of City of New York	N. Y.	1115 S Street
*Shear, Deming Jonas	Va.	Vienna, Va.
Siebel, William Lawrence	D. C.	1727 North Capitol Street
Skirm, George L.	N. Y.	177 Uhland Terrace
†Smith, Charles Henry	Iowa	1120 Rhode Island Avenue
Smith, John Elverton	Cal.	1223 13th Street
Sniegowski, John Peter	Ky.	718 Maryland Avenue, N.E.
*Stadel, Edward F.	N. Y.	2133 K Street
Stansbury, Beverly Taylor	Md.	Rockville, Md.
*Talcott, John Jared	D. C.	509 9th Street, S.E.
Thies, William Herman	Md.	702 19th Street
*Thompson, George Walter	D. C.	Congress Heights
Todd, David B., Jr.	Ariz.	248 9th Street, N.E.
Trogner, Arthur Malcolm	D. C.	705 Shepherd Street
Van Fossen, John Ray A.B. 1904, Cornell College, Iowa	Iowa	1404 12th Street
*Wallace, Edward Lee	N. Y.	1218 Perry Street
*Weeks, Cecil Herbert	D. C.	Riverdale, Md.
*West, John Thomas	D. C.	1744 S Street
*Willoughby, John Alexander	S. C.	4710 Georgia Avenue

TEACHERS COLLEGE

CANDIDATES FOR THE DEGREE OF BACHELOR OF ARTS AND BACHELOR'S
DIPLOMA IN EDUCATION

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
*Affleck, (Mrs.) Philip G.	0	D. C.	3817 Woodley Road
AtLee, Anna May	60	D. C.	3028 41st Street
Bailey, Lillie Porter	57	D. C.	1513 8th Street
Baker, Eva	48	D. C.	124 U Street
Ballinger, Lulu Emma	48	D. C.	17th and Church Streets
*Barker, Alma	58	D. C.	302 S Street, N.E.
Barnes, Ruth Ellen	50	D. C.	Benning, D. C.
Bashford, Margaret Josepha	80	Va.	Alexandria, Va.
Beller, Elizabeth Caroline	94	D. C.	235 First Street, N.E.
Beller, Sadie White	74	D. C.	235 First Street, N.E.
Benfer, Rachel Lucile	39	D. C.	3009 17th Street, N.E.
*Berg, Florena Emily	48	D. C.	1212 Delafield Place
Bontz, Mary Ellen	108	Va.	Alexandria, Va.
Boone, Virginia Lee	60	Md.	U. S. National Museum

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
Brewer, Clara Gertrude	0	D. C.	2814 Cathedral Avenue
*Briggs, Ellen Ruth	48	D. C.	237 9th Street, N.E.
Brill, Rose	48	D. C.	2801 Georgia Avenue
Brumm, Henryette	48	D. C.	517 E Street, N.E.
Buckingham, Mary Catherine	48	D. C.	134 C Street, N.E.
*Burkart, Helen	48	D. C.	2021 1st Street
Burroughs, Eugene Scott	62	Md.	Clinton, Md.
Cardwell, Annie Marion	54	Va.	608 F Street, N.E.
Carrothers, Christine Fulton	48	D. C.	1802 20th Street
Chalice, Clara Elizabeth	48	D. C.	1789 Lanier Place
*Christ, Fred V.	0	Kans.	2120 O Street
Clark, Ethel Pixley	60	D. C.	1610 Monroe Street
*Coale, Anna Edith	0	Md.	1348 Meridian Place
*Coffren, Mary Agnes	0	Md.	Upper Marlboro, Md.
*Coggins, Emma Louisa	48	D. C.	927 P Street
Colborn, Lena Clayton	0	Pa.	1226 15th Street
Cole, Susie May	0	D. C.	800 East Capitol Street
Connell, Lillie Marie	56	D. C.	519 Stanton Place
Cooper, Lillie Crook	48	D. C.	807 7th Street, S.W.
Costen, Alta	84	Md.	601 21st Street
Crockett, Bessie Lee	53	D. C.	1416 S Street
*Croggen, Evelyn McLane	48	D. C.	The Elkon
Cuthbertson, Marie Gertrude	18	D. C.	2204 Evarts Street, N.E.
Dent, Mary Catherine	82	D. C.	3009 P Street
*Douglass, Mary Virginia	10	Va.	Aldie, Va.
Dulin, Cecilia Pinkney	62	D. C.	3 Grafton Street, Chevy Chase, Md.
Egli, Bertha Emma	48	D. C.	1616 3rd Street
Eldridge, Harriet Dayton	106	N. C.	2017 Park Road
*Ellis, Edna Virginia	58	D. C.	3363 18th Street
Emory, Mary Annette	87	D. C.	811 6th Street, N.E.
English, Maude Franzoni	93	D. C.	1926 Biltmore Street
Entwisle, Ada Reed	48	D. C.	1224 North Carolina Avenue, N.E.
Espey, Emolyn Carpenter	56	D. C.	122 11th Street, N.E.
Evarts, Frances Louise	68	D. C.	1647 Lamont Street
Ewer, Maidee	48	Cal.	1141 New Hampshire Avenue
Fenderson, (Mrs.) Minnie W.	48	D. C.	1864 Monroe Street
*Fibbs, Grace	0	Iowa	413 B Street, N.E.
Ficklin, Kroes	80	Va.	Alexandria, Va.

Name	Credits	Legal	
		Residence	Address
Follin, Katharine	48	D. C.	3535 13th Street
Gaddis, Margaret Trimble	48	D. C.	1017 East Capitol Street
Galeski, Alexandra Louise	90	D. C.	The Imperial
*Garby, (Mrs.) Lee Hawkins	48	D. C.	718 18th Street
Gardner, Susan Helen	100	D. C.	218 Maryland Avenue, N.E.
Gibbs, Kate Maria	92	Mass.	3315 12th Street, N.E.
Glascock, Fannie Ella	2	D. C.	3564 11th Street
Goebel, Annie Pauline	50	D. C.	3333 Prospect Avenue
Goldsworthy, Florence Cora	48	D. C.	1201 Harvard Street
Greenwood, Katherine E.	60	D. C.	806 Maryland Avenue, N.E.
Greenwood, Mary Maud	94	D. C.	806 Maryland Avenue, N.E.
Guilford, Charles Carlton	72	Va.	McLean, Va.
Hairston, Letitia	0	Mo.	1223 Euclid Street
Handy, Effie Bruce	48	D. C.	1937 Park Road
*Hanley, Mary Agnes	54	Pa.	1210 Euclid Street
Hardell, Lelia B.	48	D. C.	906 P Street
Hardy, Rose Lees	88	D. C.	812 East Capitol Street
Hartmann, Wilhelmine Cornelia	113	D. C.	1416 15th Street
Heider, Anna	56	D. C.	943 Westminster Street
Helgesen, Gladys Lenore	100	N. D.	2556 36th Street
Hellman, Dorothy	104	Wyo.	2804 Cathedral Avenue
Henderson, Eleanora	54	D. C.	1630 17th Street
Hobgood, Katharine White	72	La.	3631 10th Street
Hochiesen, Nannette Isabel	48	D. C.	208 E Street
Hoover, May Woodin	48	D. C.	1337 Vermont Avenue
Huber, Josephine Marie	0	D. C.	1308 Maryland Avenue, N.E.
Hummer, Elizabeth Alice	115½	D. C.	812 East Capitol Street
*Hunt, Lucy Jones	48	D. C.	439 New Jersey Avenue, S.E.
Jacobs, Emma Suter	48	D. C.	3509 11th Street
Johnson, Virginia Head	64	D. C.	1107 O Street
Johnston, Grace Virginia	54	D. C.	4 Quincy Place, N.E.
Kail, Harriet Randall	48	D. C.	917 Florida Avenue
*Kalbfus, Kathryn	48	D. C.	1115 D Street, N.E.
Kayser, Elmer Louis	67	D. C.	3129 O Street
Kelton, Adelaide	52	D. C.	1827 Kalorama Road
Kennedy, Harriet Briggs	48	Va.	513 Seward Square
Kimball, Mary Lee	108	Mass.	The Congressional
Kupfer, Julie Adele	48	D. C.	1740 13th Street
Lackey, Elizabeth	48	D. C.	1430 Rhode Island Avenue

Name	Credits	Legal	
		Residence	Address
Lackey, Mary	56	D. C.	1430 Rhode Island Avenue
Lacy, Bessie Kibbey	48	D. C.	493 G Street, S.W.
Lawrence, Lucretia Margaret	44	D. C.	1303 R Street
Lawrence, Mildred	48	D. C.	1014 10th Street, N.E.
Lee, Lelia	66	D. C.	327 10th Street, N.E.
Lester, Morgiana Mary	10	Va.	1212 34th Street
Lyddane, Florence Spencer	48	D. C.	1814 First Street
McCaffrey, Lasalia	32	Iowa	28 2nd Street, N.E.
McCarthy, M. Florence	0	N. Y.	1632 19th Street
McCarty, Cora	58	D. C.	2106 F Street
McGraw, Helen Marie	0	Conn.	1248 10th Street
*McGroarty, Mary Evangeline	54	Va.	Falls Church, Va.
McKee, Mary Therese	58	D. C.	2123 K Street
McKnew, Jane Marion	67	D. C.	1421 Columbia Road
*Maher, Louise	48	D. C.	1300 Madison Street
Mantner, Rhoda	48	D. C.	2627 Adams Mill Road
†March, Sterling Rhodes	74	D. C.	Congress Heights
Matthews, Etta Helene	64	D. C.	1223 Euclid Street
Maxson, Evelyn Juliet	2	D. C.	647 East Capitol Street
Melick, Ada Olga	48	D. C.	2213 First Street
Meyers, Clara Belle	0	D. C.	3214 Wisconsin Avenue
Meyers, Edith Irene	48	D. C.	3214 Wisconsin Avenue
*Moody Florence L. A.	24	D. C.	2607 11th Street
Moore, Edith Shannon	48	D. C.	502 A Street, S.E.
Moore, Margaret	54	D. C.	502 A Street, S.E.
Mortimer, Florence Craigie	33	D. C.	1141 New Hampshire Avenue
Mortimer, Lucie Elizabeth	48	D. C.	1141 New Hampshire Avenue
Mulford, (Mrs.) Bessie Boyd	72	D. C.	3014 Dent Place
*Munnerlyn, Orrie May	48	D. C.	214 12th Street, S.E.
*Murray, Elizabeth Louise	48	D. C.	1608 K Street, N.E.
Murray, Mary Frances	82	D. C.	1324 A Street, S.E.
Nalls, Walter Lee	0	Va.	Alexandria, Va.
Nevins, Ruby	85	D. C.	1421 Columbia Road
Newcombe, Mary Anne	98	D. C.	144 12th Street, N.E.
Newhouser, Enola Harriet	72	D. C.	217 East Capitol Street
Nichols, Helen Gilman	50	D. C.	2604 University Place
Nickles, Elsie	48	D. C.	122 Florida Avenue
O'Brien, Margaret Rose	54	D. C.	1002 4th Street, N.E.
Offutt, Viola	65	Md.	Bethesda, Md.
O'Hara, Elizabeth	50	D. C.	135 S Street

Name	Credits	Legal	
		Residence	Address
*Patterson, Ida Belle	88	Va.	2115 California Avenue
Payne, Lilly May	66	Va.	Ballston, Va.
*Pendleton, Agnes Louise	60	D. C.	901 M Street
Phillips, Ruth Sutherland	30	D. C.	87 Eastern Avenue, Takoma Park, D. C.
Prentiss, Margaret Joanna	30	D. C.	1720 Oregon Avenue
Randall, Bernice	60	D. C.	2035 F Street
Reed, Margaret Davis	48	D. C.	2809 14th Street
Reeve, Felecia Ann	116	D. C.	1626 19th Street
Reeve, Laura Washburn	74	D. C.	1626 19th Street
Rider, Dorothy	48	D. C.	916 B Street, S.W.
Ring, Gretchen	0	D. C.	1317 L Street
Robey, Mabel Alida	114	Md.	2001 Kalorama Road
Rogers, (Mrs.) Florence Hopkins	52	D. C.	1361 Fairmont Street
Rose, Lael Tench	48	D. C.	2963 Tilden Street
Rose, Mary Estella	81	D. C.	2963 Tilden Street
Rowell, Marguerite North-ern	51	Va.	West Falls Church, Va.
Sage, Lillian Warfield	52	Md.	Rockville, Md.
Saunders, Marguerite Josephine	30	D. C.	6th Q Street
*Schmidt, Hilda Marie	15	Wis.	2013 North Capitol Street
Schoenborn, Theresa Fredericka	48	D. C.	1359 Harvard Street
Scotfield, Margaret Church	48	D. C.	1614 P Street
Scott, Pauline	48	D. C.	156 13th Street, S.E.
Selah, Miriam Hughes	58	D. C.	17 3rd Street, N.E.
*Seoane, Corita Grace	5	Va.	Merrifield, Va.
*Shedd, Emelyn Collamer	48	D. C.	1627 Newton Street
*Smith, Henrietta	0	Ky.	912 I Street
Smith, Margaret Mary	11	Md.	Riverdale, Md.
Sornberger, Dorothy Gertrude	69	D. C.	908 Sheridan Street
Speiser, Mary Elizabeth	9	D. C.	226 8th Street, S.E.
Stallings, Mildred Evelyn	67	D. C.	1200 East Capitol Street
Stefan, Emilie Bertha	48	D. C.	5706 Georgia Avenue
Steger, Mary Evelyn	84	D. C.	1906 Florida Avenue
Steuart, Emily Nourse	54	D. C.	3058 R Street
Stewart, Elizabeth Tabb	72	Va.	East Falls Church, Va.
Stewart, Lettie Ethel	55	D. C.	2411 First Street
*Strudley, Marie Josephine	48	D. C.	36 Quincy Place
Summy, Ethel	109	D. C.	1623 R Street
†Taylor, Bertha Elmore	48	D. C.	2129 18th Street
Terry, Raymond E.	84	N. Y.	814 22nd Street

<i>Name</i>	<i>Credits</i>	<i>Legal Residence</i>	<i>Address</i>
Thompson, Charles Newton	92	D. C.	926 8th Street
*Thompson, Edith	27	Va.	Falls Church, Va.
Thönssen, Ruby Ella	77	D. C.	315 C Street, S.E.
Thrasher, (Mrs.) Annie Blackburn	0	D. C.	417 M Street, N.E.
*Tighe, Catherine Louise	0	Md.	Laurel, Md.
†Trotter, Katharine Eliza- beth	48	D. C.	512 Rhode Island Avenue, N.E.
Van Doren, Emma May	117	D. C.	629 Massachusetts Avenue N.E.
Votaw, Heber Herbert	90	Ohio	In care of College, Ta- koma Park, D. C.
Walker, Carol Louise	33	D. C.	20 16th Street, N.E.
Wallace, Florence Cather- ine	48	D. C.	75 Randolph Place
Walter, Gertrude Eliza- beth	30	D. C.	623 East Capitol Street
Wanstall, Grace	61	D. C.	1706 F Street
Warde, Ethel May	48	D. C.	127 U Street
Wessells, Alice Cordelia	48	D. C.	719 Webster Street
Wheatley, Mary Eliza	2	Va.	2138 F Street
White, Helen Gardener	0	D. C.	408 Virginia Avenue, S.E.
Whitford, Bessie	109	D. C.	3369 18th Street
Whitzell, Margaret Eva	52	D. C.	1218 11th Street
Wilson, Josephine Eleanora	0	Md.	Upper Marlboro, Md.
Wiltberger, Eugenia Barnes	30	D. C.	601 Taylor Street
Wolf, Hattie May	16	D. C.	626 22nd Street
Yoder, Bertha Alice	91	D. C.	1225 Euclid Street

SPECIAL

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Argent, Eleanor	Md.	1317 New York Avenue
*Crockett, Joseph Adolph	D. C.	517 3rd Street, S.E.
*Elmore, (Mrs.) Mary DeFord	D. C.	301 Rittenhouse Street
*Kalb, Dorothy Buhrman A.B., 1916, George Washing- ton University	D. C.	1535 T Street
*Law, Mary A.	D. C.	3413 Holmead Street
Lombard, Ellen Celia	Mass.	213 East Wardman Courts
Mason, Josephine Dwight A.B., 1916, George Washing- ton University	D. C.	1348 Euclid Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Meloy, Edith Willard	D. C.	1309 Emerson Street
*Queen, Margaret Forrest	D. C.	113 4th Street, S.E.
*Searle, Juliet MacCall	D. C.	4417 15th Street
*Shipman, Mary Priscilla	D. C.	3066 Q Street
Simon, (Mrs.) Theresa M.	D. C.	1634 Riggs Place
*White, William Curtis	D. C.	The Northumberland
A.B., 1897, Trinity College; A.M., 1903, B.D., 1906, Philadelphia Divinity School		
Wright, Grace Viola	D. C.	The Montgomery
Zinsmeister, Grace Mary	D. C.	1364 Girard Street

SUMMARY

Graduate Students

Students in attendance.....	21	
Candidates for C.E. degree.....	1	
Candidates for E.E. degree.....	2	
Candidates for M.E. degree.....	2	
Candidates for S.M. degree.....	23	
Candidates for A.M. degree.....	43	
Candidates for Ph.D. degree.....	50	
	142	
Duplicates.....	2	140

Undergraduate Students

Columbian College

Candidates for A.B. degree.....	378	
Candidates for B.S. in Chemistry degree.....	100	
Candidates for B.S. in Medicine degree.....	10	
Pre-Medical.....	20	
Special.....	334	
	842	

College of Engineering

Candidates for B.S. in Arch. degree.....	18	
Candidates for B.S. in C.E. degree.....	54	
Candidates for B.S. in E.E. degree.....	27	
Candidates for B.S. in M.E. degree.....	55	
Special.....	103	
	257	

Teachers College

Candidates for A.B. and Teacher's Diploma	192	
Special.....	15	
	<hr/>	207
		<hr/>
		1446
Duplicates		1
		<hr/>
		1445

MEDICAL SCHOOL

CANDIDATES FOR THE DEGREE OF DOCTOR OF MEDICINE

First Year

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Baker, Wallace Bruce	Pa.	326 F Street, N.E.
Barrett, Lester Earl	N. C.	914 I Street
Beck, Richmond James	Wis.	108 3rd Street, N.E.
Bowen, Wilbur Lorenzo	Va.	1654 Hobart Street
Bradley, Everett Lamont	D. C.	60 S Street
Brenes, Alfredo Robles	Costa Rica	933 H Street
Castro, Hernan Rawson	Costa Rica	933 H Street
Crespo, Jose Eusebio	Porto Rico	810 12th Street
Dazey, George Kendal	Kans.	1230 6th Street, S.W.
Decker, Vincent Raymond	D. C.	915 Florida Avenue
Duffie, Don Hastings	D. C.	Takoma Park, D. C.
Freeland, Fred Bernard	Wash.	809 14th Street
Griffith, Harold Moore	Pa.	1323 M Street
*Gutierrez, Daris	B. A.	601 Gresham Place
Hayes, Hirst	Va.	Alexandria, Va.
Hollander, Ben	D. C.	1916 G Street
Hollingsworth, Russell Kuhner	D. C.	1364 Girard Street
Howe, Julian	N. Y.	1116 15th Street
Jensen, Emma Amelia	Ill.	809 Mt. Vernon Place
Ph.G., 1905, Valparaiso University		
Ketcham, Anna Marie	D. C.	1806 H Street
A.B., 1904, Smith College; D.O., 1907, Philadelphia College of Osteopathy		
King, Charlton R.	Ala.	620 A Street, N.E.
Lewis, Charles Harold	D. C.	1230 6th Street, S.W.
A.B., 1916, Washington Missionary College		
Li, Kang	China	2014 Kalorama Road
Mandelos, Nicholas A.	Greece	1229 New York Avenue
*Manning, William T.	Ohio	1335 H Street
Marchena, Ricardo	Costa Rica	1208 K Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Masone, Joseph	Italy	815 East Capitol Street
Graduate, 1912, R. Scuola Normale Caschile; Pisa, Italy. A.M., 1916, George Washington University		
*McCaron, Dennis Donovan	Va.	918 M Street
*McNamara, George Augustine	N. Y.	918 M Street
Minick, George Vail	Pa.	300 11th Street, S.E.
Munoz, Roque Narcissus Al- phonsus	C. A.	1123 14th Street
Myers, Franklin Hammett	D. C.	3754 McKinley Street, Chevy Chase, D.C.
*O'Dea, Harold J.	Pa.	918 M Street
*Peralta, Jose J.	Costa Rica	933 H Street
Ramsey, Herbert Percy	D. C.	813 Massachusetts Ave- nue, N.E.
A.B., 1916, George Washing- ton University		
Russo, Nicholas Dante	N. J.	810 12th Street
Seaggs, George Warren	D. C.	1225 Franklin Street, N.E.
Scala, Norman Philip	D. C.	918 South Carolina Ave- nue, S.E.
Schwartz, Abraham Theodore	D. C.	1111 Good Hope Road, S.E.
Stibbs, Henry Weston Barnum	N. Y.	2026 F Street
Thompson, Thomas Carlton	Pa.	1323 M Street
Tribble, Samuel Lamar	Ga.	1101 13th Street
*Vadi, Emilo	P. R.	1335 H Street
Vestal, Paul William	N. C.	1323 M Street
Phar.D., 1915, George Wash- ington University		
*Walsh, Edward J.	D. C.	2131 Pennsylvania Avenue
Williman, Frank Louis	Mich.	607 O Street
Zerbe, John Bertolet	Pa.	1323 M Street

Second Year

Barone, Charles James	N. Y.	1323 M Street
Bassett, George Overton	D. C.	604 7th Street, N.E.
Berman, Morris	Minn.	Emergency Hospital
Campbell, Elliott Muse	D. C.	1757 Columbia Road
Crisp, Thomas Benton, Jr.	D. C.	638 E Street, N.E.
Phar.D., 1915, George Wash- ington University		
*Davis, (Mrs.) Margaret Quinlan	N. Mex.	Arlington, Va.
Doyle, John Conan	N. H.	2146 P Street
Gardner, William Clifford	Pa.	817 15th Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Hottel, Robert Roy	Md.	601 M Street
Kreiselman, Joseph	Ohio	1323 M Street
LaFond, Dolor Joseph Arthur	Mass.	1316 I Street
*Moxon, (Mrs.) Gail Fitch	D. C.	1225 L Street
A.B., 1917, George Washing- ton University		
Shapiro, Hyman David	D. C.	95 L Street
Smart, James Alexander	Va.	Herndon, Va.
Smiler, Nathan Norman	D. C.	1001 U Street

Third Year

Bittinger, Samuel Moffett	Tenn.	3910 Livingston Street
Cajigas, Tomas Moreu	P. R.	905 13th Street
Connor, Jack Anthony	D. C.	2227 1st Street
Davis, Cecil Clair	N. Mex.	Arlington, Va.
Hartley, Gilbert Vernon	D. C.	4012 7th Street
*Leetch, Henry Winship	D. C.	3259 R Street
Lewis, Edward	Tenn.	1219 Vermont Avenue
Lyons, John Hugh	D. C.	2331 1st Street
Mason, Lyle Millan	Va.	308 B Street, N.E.
Oden, Axel Robert	D. C.	1730 M Street
Pendexter, Ralph Stevens	Conn.	1322 Vermont Avenue
LL.B., 1913, Georgetown Uni- versity		
Rawson, George Henry	Mass.	Casualty Hospital
Ruiz, Ramon Clodomiro Nazario	P. R.	905 13th Street
Schoenfeld, Herbert Hermann	D. C.	3448 34th Street
Wright, (Mrs.) Katherine	Md.	1223 L Street

Fourth Year

Bolton, Boyce Richardson	D. C.	1319 Q Street
Brian, Victor McMurray	Ill.	The Burlington
Chadwick, Everell Verni	Pa.	Washington Asylum Hos- pital
Davis, Ralph Harold	N. Y.	Emergency Hospital
Dickerson, Dorrell Ghio	D. C.	The New Berne
Dowling, George Brackett	D. C.	3603 14th Street
Fadeley, James McNelledge	Va.	Emergency Hospital
Frischkorn, Charles Rock	D. C.	1242 Newton Street, N.E.
Gill, William Tignor, Jr.	D. C.	442 M Street
Gordon, Robert John	Wis.	Washington Asylum
Groesbeck, Bertram, Jr.	D. C.	1824 S Street
Hadley, Henry Gilbert	N. Y.	George Washington Uni- versity Hospital
Haupt, William Herbert	S. A.	607 O Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Hecht, Darwin	N. Y.	106 I Street
Herschman, Myer Jerome	D. C.	2733 P Street
Hines, Clifford Gentner	D. C.	1512 Columbia Road
Houghton, James Edwin	D. C.	George Washington Uni- versity Hospital
Kennedy, Glen Marion	Ga.	1210 Delafield Place
Kotz, Jacob	D. C.	215 H Street
Mann, Jesse Thomas	D. C.	1011 B Street, N.E.
Manning, Wilbur Oscar	D. C.	22 2nd Street, N.E.
Miller, Robert Bartle	D. C.	1320 10th Street
Miller, William Campbell	D. C.	113 Carroll Avenue, Ta- koma Park, D. C.
Montgomery, Howard Howlett	Md.	Silver Spring, Md.
Mueller, Louis Eugene	Wis.	1322 Vermont Avenue
Mulligan, Edward William	R. I.	1324 L Street
Oborski, Zygmund Anthony	Pa.	1305 H Street
Otis, Israel Sabine	Conn.	1322 Vermont Avenue
Peters, David B.	Va.	1919 K Street
Phar.D., 1910 George Wash- ington University		
*Quirk, Jerome Thurston	Va.	George Washington Uni- versity Hospital
Ritzhaupt, Louis Henry	Okla.	1252 6th Street, S.W.
A.B., 1912, College of Medi- cal Evangelists, Loma Linda, Cal.		
Satterlee, Richard Covert	Ill.	1322 Vermont Avenue
Speidel, Francis George	D. C.	2309 1st Street
Staknevich, John Henry	N. J.	1305 H Street
Storch, Raymond Bernard	D. C.	1361 Spring Road
Sullivan, Earle Eugene	N. Y.	George Washington Uni- versity Hospital
Villamil, Jose Rosado	P. R.	24 Grant Place
Wambsganss, Lina	Ger- many	607 O Street

SPECIAL

Blakemore, Ellamar Body	D. C.	142 S Street
Fletcher, Travis Leigh	D. C.	The Home
*Howard, Sarah B	D. C.	911 Rhode Island Avenue
Tibbets, Lyman Broock	D. C.	1636 17th Street

SUMMARY

First year.....	47
Second year.....	15
Third year.....	15
Fourth year.....	37
Special.....	4

DENTAL SCHOOL

CANDIDATES FOR THE DEGREE OF DOCTOR OF DENTAL SURGERY

First year		
<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Aronoff, Emanuel Joseph	N. J.	647 E Street, N.E.
Blasi, Arthur	N. J.	810 12th Street
*Botts, Richard Arthur	Va.	The Farragut
Brashears, William Nathaniel	N. Mex.	1335 H Street
*Burke, William Francis	Mass.	1909 G Street
Catlett, Turner Grandison	Va.	R. F. D. No. 1, Alexandria, Va.
*Cavanagh, Joe Francis	Ohio	Raven Hotel
*Charnas, David	Mass.	1335 H Street
*Clough, Herbert Floyd	N. J.	Willard Hotel
Collins, John Patrick	N. H.	Hamilton Hotel
Colomen, Rebecca Bessie	N. Y.	1543 6th Street
*Cook, Alfred Watson	Texas	3730 McKinley Street, Chevy Chase, Md.
*Cooney, John Patrick	D. C.	Naval Hospital
Cullen, Daniel Clifton	Va.	1335 H Street
Dailey, Frank Leonard	Wash.	718 18th Street
D'lene, Louis	D. C.	National College of Phar- macy
Denton, Frederick Eugene	N. Y.	1812 Ontario Place
Dice, Irven R.	Mich.	1117 18th Street
Dull, John Wesley	Pa.	Treasury Building
Erikson, Bernhard Edwin	Ill.	2112 F Street
Fletchall, John Thomas	Md.	608 Massachusetts Avenue
Gates, Thomas David	D. C.	808 North Carolina Ave- nue, S.E.
Genesse, Louis Joseph	N. Y.	1006 M Street
Gorton, William Howard	N. Y.	608 Massachusetts Avenue
Greene, Robert E.	N. Y.	1812 Ontario Place
Hall, Arthur Adelbert	N. Y.	Kappa Alpha House
*Hemsarh, Elmer A.	Pa.	718 21st Street
Hunt, Elliott Albert	N. J.	213 Seaton Place, N.E.
*Issow, Samuel	N. Y.	1002 Columbia Road
*Kanter, Max J.	Va.	416 Fenchurch Street, Norfolk, Va.
Katzman, Samuel	N. Y.	503 L Street
Kelley, John Francis	Mass.	1215 K Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Kelly, Clarence Edward	Mo.	718 18th Street
Kinsel, Oliver	Ala.	718 18th Street
Kunzleman, Louis	N. Y.	1018 14th Street
Langford, Edward Charles	Conn.	1335 H Street
Link, Bernard	N. Y.	George Washington Hotel
Linsenberg, Nathan Lester	N. Y.	1135 6th Street
McCullough, Robert William	Md.	222 2nd Street, N.E.
Marr, William Walter	D. C.	1815 Vernon Street
Mitchell, James Francis	R. I.	307 11th Street
Morrison, Ralph Lancaster	Md.	2303 M Street
*O'Connor, Gordon F.	Minn.	1756 Q Street
Parker, Samuel Richard	N. Y.	Ft. Myer, Va.
Ray, Richard William	Utah	1335 H Street
Reilley, Thomas Arthur Clay	N. J.	1616 I Street
Rhodes, William Sidney	Va.	1410 M Street
Robinson, Raymond V.	D. C.	1231 Talbert Street, Anacostia, D. C.
*Safer, John M.	Wis.	929 Westminster Street
*Schwartz, David	Va.	1335 H Street
*Simmons, Corwesley Ruffner	Cal.	607 Prince Street, Alexandria, Va.
*Smallwood, Richard Radcliffe	D. C.	Y. M. C. A.
*Sonntag, Lester F.	D. C.	74 V Street
Stiefel, Charles Valentine	D. C.	2207 Flagler Place
Sullivan, Walter Daniel	Mass.	1324 Vermont Avenue
*Sutton, Rudolph E.	D. C.	602 3rd Street
Swanson, Henry Albert	N. D.	1233 C Street, N.E.
Thomas, Charles Lenton	Texas	1733 20th Street
*Van Wert, Paul H.	Pa.	1335 H Street
Voelker, Joseph William	Va.	1541 8th Street
*Walton, Percy Bonsalli	D. C.	1135 New Hampshire Avenue
*Wechteren, Beyril I.	Russia	1335 H Street.
Wheelock, Carl Randall	Ohio	The Regina
White, Earl Benjamin	D. C.	332 Seaton Street, N.E.
Williams, Henry Ralph	Md.	Kappa Alpha House
Wing, Ernest Wellman	N. J.	1236 Girard Street
Wiseman, Sidney Aaron	D. C.	1705 7th Street
Witt, Charles Ralph	Ind.	2034 G Street
Woltz, Max McKelvey	D. C.	24 Seaton Place

Second year

Agnew, Gordon Granger	N. Y.	Berwyn, Md.
Boiko, Joseph Alexander	N. Y.	918 M Street
Bonnett, Ralph William Smeade	Ohio	637 Park Road

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Boston, John Armistead	Va.	1102 L Street
Brown, Roger Allen	Iowa	1628 K Street
Cheeley, Walter Cuthbert	Colo.	1741 G Street
Christiansen, Elmer Earnest	Utah	23 Grant Place
Coghlin, Julia Sylvia	Mass.	101 North Carolina Avenue, S.E.
Copping, John Blake	Md.	Seat Pleasant, Md.
Cowley, William Hyde	Utah	1333 15th Street
Danforth, Earl Fielding	D. C.	The Calvert
Erickson, Hilmer Alvin	Minn.	716 13th Street
Faherty, Leo Charles	D. C.	1400 Pennsylvania Avenue, S.E.
Fainman, Abraham Joseph	Russia	2137 9th Street
Frank, Earl Bennett	R. I.	1333 15th Street
Goren, David	Mass.	1135 6th Street
Harbison, Leo Anthony	D. C.	1407 Chapin Street
Harrington, George Elliott	D. C.	4641 Conduit Road
Harris, Michael	R. I.	1135 6th Street
Hein, Edward Faulstick	Ill.	943 K Street
Horgan, Frederick William	Mass.	716 13th Street
Keroes, William	D. C.	2404 14th Street
King, Willard Jones	D. C.	459 H Street
Kuku, Jacob Lewis	N. Y.	1117 5th Street
Levey, Nathan	N. Y.	1109 14th Street
Levin, Philip	Conn.	Walter Reed Hospital, Takoma Park, D. C.
Lowry, Henry Clay	Mich.	1333 15th Street
*McCabe, John T.	Mass.	1335 H Street
McCarthy, Dean Joseph	D. C.	1220 G Street
Owen, George Thomas	Tenn.	664 E Street, N.E.
Popkin, Hymen	N. J.	1726 P Street
Richman, Ivan Hjalmar	Minn.	1105 K Street
Rush, Arma Exner	D. C.	629 G Street, S.W.
Rustia, Francisco	P. I.	The Brunswick
Sechrist, Noah Cleveland	Pa.	1772 Willard Street
Shields, Clarence Samuel	Ky.	1916 16th Street
Vordermark, Herman Henry	S. D.	1206 10th Street
Walter, Eugene Leroy	D. C.	716 13th Street

Third year

*Adachi, Yoichi	Japan	933 N Street
Allen, Clarence Basom	Pa.	The Iowa
Arbeely, Joseph Evans	D. C.	1725 U Street
Bowen, Lawrer Winter	Colo.	1628 K Street
Butkiewicz, Eugenia	D. C.	312 G Street, N.E.

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Cannon, Munn Quayle	Utah	1333 15th Street
Claytor, Spry Owen	Ohio	1504 Columbia Road
*Cohen, Irwin Bertram	D. C.	1812 9th Street
Copping, Edward John	Md.	931 M Street
Donahey, Merle E.	Pa.	1300 Massachusetts Ave- nue
Donovan, Edward	Mass.	1244 10th Street
Douglas, Frank W.	Fla.	1310 Massachusetts Ave- nue
Elliott, John Leroy	Md.	1215 10th Street
Evansha, John Frank	Pa.	706 11th Street
Flanagan, George Andrew	N. Y.	1316 I Street
Forman, Milton	Wis.	The Home
Frost, Leon	Ohio	1333 15th Street
Gallagher, Patrick	Ireland	309 B Street, S.E.
Goetzman, George Francis	Wis.	1125 14th Street
Katayama, Seiichi	Japan	919 L Street
Kearney, Edward Joseph	D. C.	133 Quincy Place, N.E.
Lady, George Webster	Ohio	518 B Street, N.E.
Lansdale, George Leroy	D. C.	133 E Street, S.E.
Lockwood, Daniel Sumner	Ill.	943 K Street
Manley, Oscar L.	Mo.	The Coywood
Matsumoto, Shintaro	Japan	1335 H Street
Minkin, Leah	D. C.	416 P Street
Ogus, William Irving	Mass.	914 R Street
Porter, Frank Gamewell	Iowa	620 Maryland Avenue, N.E.
Postlewait, Claude M.	Ill.	931 M Street
Root, James Isaac	Mich.	216 Maryland Avenue
Shea, Arthur William	Vermont	The New Berne
Stephens, Milton	Tenn.	24 Grant Place
Sullivan, Walter Francis	Pa.	Interstate Commerce Com- mission
Sweet, William Manly	D. C.	211 Florida Avenue
Tahara, Toshio	Japan	918 18th Street
Thornton, Emmet Thompson	W. Va.	1766 Willard Street
Woods, Frederick Davis	D. C.	1100 Vermont Avenue
Wyman, Webb Watson	Ohio	1138 12th Street
Yoakum, Festy	W. Va.	The Portland

SPECIAL

Dennis, Showell Coulbourn	Md.	219 T Street, N.E.
Donk, Peter John	Canada	1706 F Street
B.S., in Chem., 1917, George Washington University		
Evans, Alice Catherine	D. C.	4821 Iowa Avenue

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
McGill, Harry Earle	N. J.	Wardman Courts, South
Middleton, Ellis Spear	D. C.	1834 Lamont Street
Perry, Walter L.	Md.	2031 F Street

SUMMARY

First year.....	69
Second year.....	38
Third year.....	40
Special.....	6
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	153

STUDENTS REGISTERED IN THE LAW SCHOOL 1916-17

Names of students who have withdrawn or graduated are indicated by stars; those who have entered since February 1, 1917, by daggers.

Students who are college graduates are indicated by the degree, year in which it was received, and name of college conferring it.

Students who have had only part of a college course are indicated by the names of the colleges attended.

CANDIDATES FOR DEGREE OF BACHELOR OF LAWS

First Year Class

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
†Albertsworth, Edwin Franklin A.B., 1915, A.M., 1916, George Washington University	Md.	130 Carroll Avenue, Takoma Park, Md.
*Altman, Don Carlos University of South Carolina	S. C.	1121 Eye Street
Altman, William Lee	S. C.	511 11th Street
*Baker, Ellery W.	D. C.	818 New Jersey Avenue
Bartholow, Edmond Montgom- ery A.B., 1909, University of Kansas	Kans.	2030 Lawrence Street, N.E.
Brock, Howard Merle Toledo University	Ohio	Y. M. C. A.
Brodie, Loy Hall	D. C.	2003 Girard Street, N.E.
†Brown, Earle L.	Iowa	1414 V Street
*Burton, George John	N. Y.	420 Randolph Street
Bush, Clarence Edgar	D. C.	408 Barrister Building
†Chapline, Vance Duncan Graduate, 1909, U. S. Naval Academy	Neb.	Navy Department
†Cherrington, Edwin Nash	Ohio	708 19th Street
Chilton, Ralph H. M.E., 1911, Virginia Poly- technic Institute	Va.	702 20th Street
*Clement, Donald Banks	Minn.	1835 Monroe Street
Cole, John Melvin B.S. in E.E., 1911, Clarkson College of Technology	N. Y.	2140 N Street
*Cooper, Barclay Ware	Okla.	624 B Street, N.E.
Crabbe, Albert William	Utah	1366 Parkwood Place

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Dismon, Arthur Lewis	N. Y.	Interstate Commerce Commission
*Dixon, Virgil Jason Graduate, 1909, U. S. Naval Academy	Cal.	Navy Department
Eames, William Herbert	Mass.	3019 24th Street, N.E.
*Eddy, Lewis Edwin S.B., 1897, S.M., 1891, Camp- bell College, Holton, Kans.	Md.	General Land Office
Edwards, John William	Vt.	Bureau of Labor Statis- tics
Elkin, Ernst Muehler	Ind.	1533 Monroe Street
†Erbaugh, Charles Oscar Valparaiso University	Colo.	The New Willard
Fairbank, Carl S. Albion College, George Wash- ington University	Mich.	1810 N Street
Faulkner, Robert Raymond	Ill.	1318 22nd Street
Fehr, Joseph Conrad	Utah	George Washington Hotel
*Flack, Joseph B.S. in Econ., 1916, Univer- sity of Pennsylvania	Pa.	1736 G Street
Flam, John B.E., 1916 Union College	N. Y.	1442 Fairmont Street
Flood, William Joseph, Jr.	Ind.	1900 S Street
Follmer, Joseph Roland	Pa.	5th Street and New York Avenue
Fraser, Lois Mackay A.B., 1907, A.M., 1908, Dal- housie College	Md.	Friendship Hgts., Chevy Chase, D. C.
Fravel, Robert H. A.M., 1906, Randolph-Macon College	Va.	1107 13th Street
Fray, John A. A.B., 1909, Missouri Valley College	Cal.	121 3rd Street, N.E.
*Garcia Nieves, Juan	P. R.	809 13th Street
*Gentry, Curtis G. A.B., 1916, University of Tennessee	Tenn.	24 Grant Place
*Giddings, Leander John Dakota Wesleyan University	Oreg.	Y. M. C. A.
Gonzalez, Avelino	D. C.	1531 Park Road
Gonzalez Maldonado, Jesus Al- exander	P. R.	734 12th Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*†Gonzalez, Luis Matias George Washington Univer- sity	P. R.	2000 F Street
*Harmon, Ernest Emery S.B., 1913, Bethany College	Md.	Patent Office
*Harmon, Frank Henry Bethany College	Md.	Tuxedo, Md.
Hartigan, Charles Conway Graduate, 1906, U. S. Naval Academy	D. C.	2805 P Street
Hauke, Rilla May George Washington Univer- sity	Wash.	605 Massachusetts Ave- nue, N.E.
*Hemphill, John Litt. B., 1916, Princeton Uni- versity	D. C.	2108 Bancroft Place
Hendrick, Leon Frost A.B., 1916, Millsaps College	Miss.	121 Senate Office Building
Hentges, Romane Frank State University of Iowa	Iowa	1810 N Street
Hilliard, Albert State University of Iowa	Col.	1810 N Street
†Hinckley, Gorton Cameron	D. C.	1200 East Capitol Street
*Hinson, William Jerome University of Tennessee	Tenn.	Hotel Lincoln
†Hise, Harley	Ind.	1439 T Street
†Hoover, James Osborne	D. C.	1905 North Capitol Street
Hunt, Corral Horace	Ohio	768 Hobart Place
*Hunter, Clarence Sumner George Washington Univer- sity	Mass.	1628 K Street
Hurd, Cato Burdge	Ind.	614 Rock Creek Church Road
†Jacobson, Edward Anton A.B., 1915, Gustavus Adol- phus College	Minn.	Y. M. C. A.
Johnson, Alexander L. P. A.B., 1911, College of the City of New York	Ariz.	Fort Myer, Va.
Johnson, Henry Adams S.B., 1912, Massachusetts Institute of Technology	Mass.	Y. M. C. A.
†Kangleon, Roman Kadava	P. I.	602 M Street, S.E.
Kerr, John Morrison	D. C.	1729 New York Avenue
*Krantz, Walter Donald	D. C.	1926 Calvert Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*La Garde, Richard Daspit	D. C.	2630 Woodley Place
Lamb, Albert Thomas	Kans.	1223 L Street
*Lasley, William Albert	N. C.	941 H Street
Le Fevre, Edwin K.	D. C.	1420 Newton Street
*Little, John Detrick	Md.	The Duddington
Longenecker, Albert Maurice	Kans.	909 L Street
A.B., 1906, University of Kansas		
McCoy, Whitley Peterson	W. Va.	3905 Ingomar Street, Chevy Chase, Md.
A.B., 1916, Dartmouth Col- lege		
McIntyre, Frank Patrick	Conn.	1224 13th Street
Oregon Agricultural College		
*McReynolds, Louis Raymond	Okla.	1100 Vermont Avenue
Mackey, Stuart Jones	N. Y.	1814 Park Road
C.E., 1915, Rensselaer Poly- technic Institute, Troy, N. Y.		
†Marthinson, Detlow Mainch	D. C.	1842 Calvert Street
George Washington Univer- sity		
*Matthews, Henry Stoddert, Jr.	D. C.	1347 30th Street
Maxson, Louis Archer	Md.	Patent Office
A.B., 1913, M.S., 1915, George Washington Uni- versity		
Middleton, George Elmer	Va.	Patent Office
C.E., 1912, Ohio State Uni- versity; A.B., 1916, George Washington University		
Miller, Henry	Ky.	1903 F Street
Miller, Howard Seaman	Cal.	Patent Office
E.E., 1913, A.M., 1915, Uni- versity of California		
*Mohsen, Khan	Persia	1719 Connecticut Avenue
George Washington Univer- sity		
Monroe, Joseph Elmer	D. C.	Beacon Apartment
George Washington Univer- sity		
*Moore, Stuart	Va.	214 A Street, S.E.
A.B., 1915, Washington and Lee University		
Morris, Guy Turner	Mo.	2625 Garfield Street
M.E., 1912, Cornell University		

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Morrison, Lee A.B., 1902, Washington State College	Mont.	The Iroquois
Neff, William Jesse	Kans.	Interstate Commerce Commission
Nelson, LeRoy Walter	Neb.	Civil Service Commission
*Nelson, Leslie Raymond	N. Y.	The Albermarle
Neudecker, William Raymond	Tenn.	Senate Office Building
Newsom, Bessie Wooten A.M., 1914, Vanderbilt Uni- versity	Ark.	1733 17th Street
*Nichols, Howard Gledhill A.B., 1915, Cornell Univer- sity	N. Y.	1321 Rhode Island Avenue
Noble, Lew Maurice A.B., 1916, Bowdoin College	Me.	Library of Congress
Noonan, Louise Haslam Trinity College	D. C.	3154 Highland Avenue
O'Brien, Matthew Houston A.B., 1916, Wesleyan Uni- versity	D. C.	202 A Street, S.E.
Pabst, Bertha E.	D. C.	3551 Holmead Place
Park, Clarence Clemmons	Ohio	1736 G Street
Pedersen, Aksel Marius S.B., 1912, Massachusetts In- stitute of Technology	Conn.	1224 Massachusetts Ave- nue
Pemberton, Harold Edward	Okla.	1331 K Street
Peter, Robert George Washington Univer- sity	Md.	Rockville, Md.
Peterson, Alvin Ray University of Illinois	Ill.	Federal Trade Commis- sion
Petree, Harris Earls George Washington Univer- sity	Mo.	1236 Euclid Street
*Petrie, John Shontz George Washington Univer- sity	D. C.	2815 6th Street, N.E.
*Plugge, Campbell Hermann	D. C.	1310 13th Street
Pole, Russell Frederick George Washington Univer- sity	D. C.	216 8th Street, N.E.
†Porter, Charles DePauw University, Ohio University	Ohio	1211 Euclid Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Prince, Altres Emory Agriculture and Mechanical College of Texas	Texas	2708 Ontario Road
Rayner, Archibald Coulter Georgetown College, Lafay- ette College	Md.	2641 Connecticut Avenue
Read, William Alfred A.B., 1905, A.M., 1906, Brown University	Mass.	The Imperial
†Reges, Maximilian F. George Washington Univer- sity	N. J.	81 V Street
Riggles, Joseph Richard, Jr.	D. C.	1328 Fairmont Street
*†Rivera, Luis Atienza College of the Pacific	P. I.	1008 22nd Street
Roberts, Tobias L.	Me.	2215 Conduit Road
Rogers, Walter Dana	Mass.	112 Wardman Courts, South
Ryan, Mark Joseph	N. Y.	2036 F Street
St. Clair, Albert Thurston George Washington Univer- sity	D. C.	202 Carlisle Court
*San Giacomo, Anthony William	N. J.	1726 P Street
Schaaff, Joseph Benjamin	D. C.	1824 Monroe Street
†Schultz, George Arthur	Wis.	1322 Massachusetts Ave- nue
Shipman, Samuel Mitchler S.B., 1916, Bucknell Univer- sity	Pa.	1333 15th Street
Silverstone, Elias	D. C.	410 K Street
Simpich, Briggs George University of Washington	Wash.	1325 M Street
Smith, Talma L. George Washington Univer- sity	Texas	Bureau of the Census
Smith, William Andrew, Jr.	D. C.	3817 Jocelyn Street
Stafford, Harold Emerson	Wis.	24 Grant Place
Stayton, William Henry, Jr. Harvard University	N. Y.	The Portland
Stevens, Bernard C.	Wash.	2024 F Street
Stickle, Wilmer Franklin Swarthmore College, Roa- noke College	N. J.	1916 16th Street
Stone, Henry Ulen	Mo.	1311 24th Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Swale, Albert Roy Upper Iowa University	Iowa	2028 G Street
Sweatt, Harold Butler	Mass.	The Eckington
Sweet, Donald Howard A.B., 1913, Western Reserve University; S.B., 1913, Case School of Applied Sciences	Ohio	Y. M. C. A.
Sydenham, Humphrey Lehigh University	D. C.	1757 K Street
Tashof, Leon Anthony George Washington Univer- sity	D. C.	437 2nd Street, S.E.
†Tomlinson, John Pride A.B., 1914, University of the South	Tenn.	U. S. Marshal's Office
†Townsend, Arthur Jesse George Washington Univer- sity	Ga.	1628 K Street
Turp, James Sowders	N. J.	2026 F Street
Van Meter, Arthur A.B., 1913, Ohio State Uni- versity	Ohio	1133 Fairmont Street
Van Petten, Harold Edwin Illinois State Normal School	Ill.	House Post Office
†Vyse, William Clarke U. S. Naval Academy	Md.	1710 M Street
Wheeler, Arthur Joseph M.D., 1908, George Washing- ton University	Ariz.	Indian Office
Wheeler, Walter Calhoun B.Chem.E., 1912, Univer- sity of Michigan	N. Y.	1316 L Street
White, Lilian Clarke State Normal College, North Carolina	N. C.	The Newton
*Willey, Earle Dukes Ph.B., 1911, A.M., 1915, Dickinson College	Del.	House Office Building
*Wright, Charles Raymond Nebraska Wesleyan Univer- sity, Grand Island College	Kans.	1412 Massachusetts Ave- nue
Wright, Lewis A. Lehigh University	D. C.	1223 L Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Wright, Robert G. University of Michigan	Mont.	1842 Calvert Street
Yang, Yung-Ching A.B., 1910, Soochow University, University of Wisconsin	China	2001 19th Street

Second Year Class

Alverson, Lyle Thomas	Ill.	State Department.
Arber, Frederick Verne A.B., 1916, University of Illinois	Ill.	1020 17th Street
Billingsley, James Lemuel	Okla.	1100 Vermont Avenue
Birmingham, John Thomas	Conn.	1310 Girard Street
Bostroem, August S.B., 1903, College of the City of New York; M.E., 1906, Cornell University	N. Y.	1211 Clifton Street
Brody, Arthur Chester	N. Y.	The Brunswick
Burg, Robert Edward George Washington University	D. C.	2034 F Street
Callahan, Charles D.	D. C.	Navy Department
Carbo, Ernest Philip	D. C.	1614 Eye Street
Carter, Ferdinand Espey	Md.	Chevy Chase, Md.
Chaddick, Herbert Hill	Tenn.	1916 16th Street
Cheatham, Ida May Blount A.B., 1916, Barnard College; George Washington University	Ga.	1743 P Street
Connell, Letcher Benjamin	Tenn.	House Post Office
Cornell, Herbert Watson A.B., 1908, University of Colorado	Col.	119 Thomas Street
*Cunningham, Julian Wallace A.B., 1916, George Washington University	D. C.	1636 Monroe Street
Davidson, Delozier M.E., 1915, Lehigh University	N. J.	Y. M. C. A.
Denit, Louis Malvern	D. C.	717 East Capitol Street
De Prez, Ralph Ruess	D. C.	4027 Connecticut Avenue
Desha, John Rollin A.B., 1912, Harvard University	Hawaii	House Office Building

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Dieserud, Einar Wellen	D. C.	216 Maryland Avenue, N.E.
Dowell, Benjamin Butterworth	D. C.	3162 Mt. Pleasant Street
Dowell, Cassius McClellan	Ill.	1738 Lanier Place
Duvall, Walker Mareen	D. C.	1831 M Street
George Washington University		
*Ely, Walter Morley	Mich.	2011 Columbia Road
Estes, Andrew Broaddus, Jr.	Ga.	119 2nd Street, N.E.
University of Georgia		
Fjeld, Alvin L.	S. D.	Senate Office Building
St. Olaf College, Northfield, Minn., George Washington University		
Freeman, Hadley F.	Ohio	Patent Office
B.S. in E.E., 1914, Case School of Applied Sciences		
Fuller, C. T. Burton	Iowa	Y. M. C. A.
A.B., 1915, Central University of Iowa		
Fuller, Wiley Madison	Texas	708 19th Street
University of Texas		
Furlow, Allen John	Minn.	The Champlain
Getchell, Leslie Wyman	Mass.	1739 P Street
Graves, John Temple, Jr.	D. C.	University Club
Litt.B., 1915, Princeton University		
Gudger, Emmet Carlyle	N. C.	<i>U.S.S. Mayflower</i>
A.B., 1901, University of North Carolina		
Guy, Ernest Carlyn	D. C.	308 5th Street, S.E.
Lafayette College		
Hall, Gilbert Lewis	Oregon	Indian Office
A.B., 1899, Swarthmore College		
Hanes, Harold Fitz-Hugh	Va.	Herndon, Va.
Harden, Fred Geer	Neb.	1468 Harvard Street
A.B., 1907, A., M. 1908, University of Nebraska		
Heckmann, William Jacob	Iowa	1218 Eye Street
Hefferman, Joseph Gregory	N. Y.	1236 Euclid Street
Syracuse University		
Helman, John P.	Kans.	2002 G Street
George Washington University		

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Hensel, Frederick William	Minn.	Indian Office
Hill, Walter Barnard	Ga.	1120 Rhode Island Avenue
B.S. in E.E., 1913, University of Georgia		
*Hubert, Wilmer Wallace	N. Y.	1739 P Street
Jackson, Howell Edmunds	Ga.	The Champlain
Vanderbilt University		
Jacobson, Charles Wells	Ga.	1810 N Street
A.B., 1915, University of Georgia		
Johns, Hyland Righter	Pa.	1450 Harvard Street
B.S. in E.E., 1913, University of Pennsylvania		
†Johnson, William Monroe	Md.	1814 S Street
Kerr, George Ropes	Mass.	1100 Vermont Avenue
Bates College; Washington and Lee University		
Kidder, Harry Waldo	Me.	1865 Kalorama Road
A.B., 1911, Colby College		
Kilmartin, Robert Charles	D. C.	3319 R Street
Knaack, Walter Reubens	Wash.	1628 K Street
†Landers, Maurice Birsall	N. Y.	1630 Irving Street
A.B., 1903, Hamilton College; S.B., 1905, Massachusetts Institute of Technology		
Larsen, Roy William	Minn.	1810 G Street
A.B., 1913, University of Minnesota		
Lavery, Thomas Claffey	Mo.	1906 N Street
Valparaiso University		
Lawrence, Clyde Shelley	S. C.	221 East Capitol Street
S.B., 1915, Military College of South Carolina		
Lehr, Milton Anthony	Ohio	5617 Colorado Avenue
George Washington University		
*Leonard, J. Cecil	Mont.	Senate Office Building
University of Michigan		
Loggins, James Elwyn	Tenn.	Hotel Lincoln
Vanderbilt University		
Lorenz, David	D. C.	3604 14th Street
Lupton, Thomas Allen	Va.	1628 K Street
William and Mary College		
McMahon, John Kane Cornelius	Mass.	815 12th Street

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Madden, Walter Joseph	S. D.	1904 G Street
Manning, Thomas Ralph	Pa.	22 Second Street, N.E.
George Washington University		
*Michael, John William, Jr.	N. Y.	18 New York Avenue, N.E.
George Washington University		
Miller, Clarence Altha	Pa.	1229 12th Street
†Miller, Edward Tylor	Del.	504 Kenois Building
A.B., 1916, Yale University; Yale University School of Law		
Murphy, Robert Daniel	Wis.	1344 Vermont Avenue
Marquette University		
Newcomb, Irving Beekman	Md.	3406 17th Street
Georgetown College		
*Paltridge, George Henry	D. C.	1222 O Street
University of Michigan; University of Chicago		
Parmelee, William Horace	Pa.	2011 Columbia Road
Patrick, John Hezzie	Mo.	1324 L Street
A.B. and B.S. in Ed., 1912, University of Missouri		
Porter, Herbert Henderson	Va.	Clarendon, Va.
Massachusetts Institute of Technology		
Rhoads, Max	Va.	1726 P Street
Richardson, Henry Jefferson	Ark.	1810 N Street
Ouachita College		
Richey, Daniel L.	Kans.	3634 10th Street
Robinson, Bruce Pettibone	Ind.	1333 15th Street
A.B., 1915, Butler College		
*Robson, Lloyd Anthony	R. I.	Interstate Commerce Commission
	D. C.	1400 H Street
*Rust, Harry Lee, Jr.		
Lehigh University		
Sanborn, Edgar Cummings	N. H.	Patent Office
A.B., 1915, Dartmouth College		
Scarborough, Julian Haskell	S. C.	314 A Street, N.E.
A.B., 1914, Yale University		
Schaffer, John Leinbach	D. C.	Navy Department
Graduate 1908, U. S. Naval Academy		
Shepard, Donald D'Arcy	D. C.	429 Massachusetts Avenue

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Smoot, John Harry	D. C.	Victor Building
*Stecher, Karl Fairmount College, Wichita, Kans.	Kans.	Y. M. C. A.
*Sterling, Ralph J. George Washington Univer- sity	Ohio	1739 P Street
Stewart, Charles Harrington	D. C.	1922 H Street
Stone, Clifford Fontaine	Wis.	1828 G Street
Stukes, Taylor Hudnall A.B., 1915, Washington and Lee University	S. C.	335 House Office Building
Stuwe, J. Daniel B.S. in C.E., 1912, George Washington University	Minn.	3913 Kansas Avenue
Sweeney, Richard Hurley Mount St. Mary's College, Catholic University of America	Md.	1823 G Street
Taylor, Edward Curtis S.B., 1914, Massachusetts Institute of Technology	Mass.	The Benedict
Thorne, Harold Carrier George Washington Univer- sity	Md.	Patent Office
Waters, Daniel James	D. C.	1858 Columbia Road
Weikert, Gerald Vernell	D. C.	The Woodworth
Willes, Hoadley Horatio	Conn.	128 North Royal Street Alexandria, Va.
Wood, Richard Francis C.E., 1915, Lehigh Univer- sity	D. C.	2650 Wisconsin Avenue

Third Year Class

Albrecht, George Moritz E.E., 1906, University of Minnesota	Minn.	Patent Office
Alexander, Walter Richardson University of Missouri	Mo.	1110 Rhode Island Avenue
Ash, Robert	N. Y.	Wardman Courts, West
*Atherton, Wallace Irving University of Pennsylvania; LL.B., February 1917, George Washington Uni- versity	Wash.	1100 Vermont avenue

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
†Babcock, Elwyn Claude	D. C.	20 Randolph Place
Bacon, George Hearne	Del.	The Sherman
A.B., 1910, Delaware College		
Banks, Andrew Jackson	Ohio	712 Eye Street
Bardwell, Halsey Warren	Vt.	Interior Department
Ph.B., 1910, Ewing College, Ill.		
Baskin, Maurice	D. C.	1807 California Avenue
A.B., 1911, Harvard Univer- sity		
*Baxter, Chester C.	Ohio	1440 Meridian Place
S.B., 1908, Ohio Northern University; LL.B., 1917, George Washington Uni- versity		
Beadle, John Bookwalter	D. C.	Wardman Courts, East
George Washington Univer- sity		
Borden, Frank H.	Pa.	Barrister Building
University of Pennsylvania		
Boteler, William Shock	D. C.	1633 Hobart Street
Broome, Edwin Warfield	Md.	Gaithersburg, Md.
Brown, Harold L.	Iowa	1628 K Street
Brown, Ralph Waldo	D. C.	Patent Office
E.M., 1912, Lafayette Col- lege		
Brown, Wilmarth	D. C.	Wardman Courts, South
Bull, Frank Arthur	Me.	1710 M Street
B.F., 1914, Biltmore Forest School		
*Burrows, Tremaine Kellogg	N. Y.	6902 5th Street
A.B., 1897, University of Ne- braska; LL.B., February, 1917, George Washington University		
Cannon, David Hoagland	Utah	Senate Office Building
University of Utah		
Castimore, Clarence	N. Y.	Law Library, Capitol
A.B., 1912, Colgate Univer- sity		
Chamberlain, Ernest R.	Kans.	1914 Pennsylvania Ave- nue
A.B., 1916, George Washing- ton University		
*Chevalley, Leon, Jr.	Wash.	
University of Washington		

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Collins, Philip LeRoy	D. C.	3708 Keokuk Street
Davis, John Wesley	Iowa	2030 G Street
S.B., 1914, Iowa Wesleyan College		
DeAgüero, Manuel	Cuba	1628 K Street
Demaree, Harry Stambaugh	Pa.	1916 16th Street
Lehigh University		
*Desha, Stephen Langhern, Jr.	Hawaii	Hilo, Hawaii
LL.B., February, 1917, George Washington Uni- versity		
*Dix, Howard Whedon	N. Y.	1236 Euclid Street
M.E., 1911, Cornell Univer- sity; LL.B., February, 1917, George Washington University		
*Draeger, Henry Herman	S. D.	Aberdeen, S. D.
LL.B., February, 1917, George Washington Uni- versity		
Earll, Donald Montgomery	Md.	1306 Euclid Street
George Washington Univer- sity		
Ershler, Philip	N. Y.	The Melrose
Eudaley, Glenn Robert	Ky.	1437 Rhode Island Ave. nue
Fisher, Martin Tucker	D. C.	1802 Wyoming Avenue
S.B., 1913, Harvard Univer- sity		
Flickinger, Samuel John	N. J.	2011 Columbia Road
Floyd, Henry Bussey	Ark.	1724 T Street
Phar.D., 1908, George Wash- ington University		
Foster, Le Roy B.	Ohio	1628 K Street
Ph.C., 1909, Ohio State Uni- versity		
Friedland, Karl Benjamin	Utah	Willard Courts
*Galloway, Barritt	Okla.	House Office Building
LL.B., February, 1917, George Washington Uni- versity		
*Groome, William V.	Va.	1300 Pennsylvania Ave- nue
Washington and Lee Univer- sity		

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Gross, Robert Frank Graduate 1907, U. S. Naval Academy; LL.B., Febru- ary, 1917, George Wash- ington University	Cal.	The Woodward
Haines, Elvans Diehl George Washington Univer- sity	D. C.	622 Quebec Place
Haines, George Louis	D. C.	622 Quebec Place
*Hall, Joseph Farland A.B., 1912, William and Mary College	Va.	702 20th Street
Hardman, Frederick James B.S. in M.E., 1910, Case School of Applied Sciences	D. C.	1423 Newton Street
Heine, Henry William George Washington Univer- sity	D. C.	502 Rhode Island Avenue
Heist, Luther H.	Pa.	1914 H Street
*Henneman, Harry E. LL.B., February, 1917, George Washington Uni- versity	Wis.	4229 Grant Circle
Hill, George Sydney George Washington Univer- sity	Mass.	The Olympia
Hollingsworth, Roger P.	D. C.	2815 14th Street
*Hunter, Rosser Lee, Jr. George Washington Univer- sity; LL.B., February, 1917, George Washington University	D. C.	Fort Sam Houston, San Antonio, Texas
Hutchinson, Lewis Orrin A.B., 1910, Yale University	Conn.	Patent Office
Jeffrey, Earl Munro A.B., 1914, George Washing- ton University	D. C.	3124 Wisconsin Avenue
Johannesen, Oscar A. Agricultural College of Utah	Idaho	2233 18th Street
*Karrick, David Brewer A.B., 1914, Yale University; LL.B., February, 1917, George Washington Uni- versity	D. C.	2120 Bancroft Place

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Keats, Harold	D. C.	University Club
A.B., 1912, George Washing- ton University		
Kemp, William Ewing	Mo.	1311½ M Street
A.B., 1914, University of Missouri		
Kraft, Walter E.	Ill.	1227 New York Avenue
Larkin, Neil Edwin	S. D.	1511 Buchanan Street
Lauck, Lee G.	W. Va.	1445 Massachusetts Ave- nue
Lee, Edward Brooke	Md.	Silver Spring, Md.
Princeton University		
Lind, Charles A.	Minn.	Patent Office
Valparaiso University		
Lindsay, Alfred Briscoe	D. C.	832 Rittenhouse Street
A.B., 1913, George Washing- ton University		
Mackay, Albert Calder	Utah	Senate Office Building
A.B., 1915, University of Utah		
Marshall, Charles Orr	Neb.	709 Shepherd Street
University of Omaha		
Meilke, Frederick W.	Idaho	800 10th Street
Miller, William Cammack	D. C.	Bond Building
A.B., 1911, Yale University		
Moore, Joseph Francis	Md.	823 Woodward Building
Morris, Daniel Leigh	D. C.	McGill Building
Morris, Logan	Utah	1333 15th Street
A.B., 1910, University of Utah		
Morrow, Henry Bascom, Jr.	Tenn.	Senate Office Building
Nehb, Frederick W.	N. Y.	Y. M. C. A.
S.B., 1913, New York Uni- versity		
Nichol, James Wallace	Mich.	412 Willard Courts
George Washington Univer- sity		
Norris, Rhesa Miles	Pa.	2121 O Street
George Washington Univer- sity		
Osoinach, John A.	Miss.	1111 11th Street
Mississippi State University		
Osoinach, Ruth Campbell	Miss.	1111 11th Street
O'Sullivan, Thomas Cullen	N. Y.	1730 M Street
Litt.B., 1914, Princeton Uni- versity		

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Parker, Arthur S.	D. C.	706 Irving Street
Patterson, Robert Wilson, 3rd George Washington Univer- sity	D. C.	1309 Kenyon Street
Pendell, Elmer	N. Y.	2032 F Street
Raymond, Norman Ticknor George Washington Univer- sity	D. C.	1406 Allison Street
Reavis, Newton C. Vanderbilt University	Tenn.	1810 N Street
*Sanford, Claude Buren A.B., 1914, University of Tennessee; LL.B., 1916, George Washington Uni- versity	Tenn.	Library of Congress
Shaeffer, Glenn Marion	Kans.	Y. M. C. A.
Shaw, Charles Jesse	Iowa	120 12th Street, S.E.
*Shields, John Ridley LL.B., February, 1917. George Washington Uni- versity	D. C.	1018 Eye Street, S.E.
Smith, Andrew Adelbert B.S. in C.E., 1908, Univer- sity of Wisconsin	Wis.	532 Taylor Street
*Smith, Robert William	D. C.	625 F Street
Staton, Adolphus Graduate 1902, U. S. Naval Academy	N. C.	Navy Department
Stovall, Bates Mitchell	D. C.	The Cecil
Tavener, Leslie James	N. Y.	131 U Street, N.E.
Taylor, Edward Thomas, Jr. A.B., 1915, University of Colorado	Col.	1810 N Street
Taylor, Harry S.	Ind.	1334 12th Street
Taylor, Perry E.	Texas	606 22nd Street
Thompson, Manly G.	Iowa	1439 T Street
Van Moss, Bert	Okla.	The Tuxedo
Volstead, Laura Ellen	D. C.	The Brighton
Ware, Kennard Nottingham University of Virginia	W. Va.	1628 K Street
†Watson, Robert Clement C.E., 1913, Lehigh Uni- versity	D. C.	McGill Building

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Wilkins, Andrew Clifford State University of Illinois; LL.B., February, 1917, George Washington Uni- versity	Ill.	The Cecil

CANDIDATES FOR DEGREE OF MASTER OF LAWS

Allen, James Thatcher LL.B., 1916, George Wash- ington University	Ky.	1934 1st Street, N.E.
†Baxter, Chester C. S.B., 1908, Ohio Northern University; LL.B., Febru- ary, 1917, George Washing- ton University	Ohio	1440 Meridian Place
*Brown, Alvin McCreary A.B., 1914, LL.B., 1916, George Washington Uni- versity	Md.	Berwyn, Md.
Clark, Marion A.B., 1901, A.M., 1904, West- ern Maryland University; LL.B., 1916, George Wash- ington University	Md.	1657 Lamont Street
Fast, Arthur Herman A.B., 1909, Baker Univer- sity; LL.B., 1912, Univer- sity of Kansas	Kans.	1628 K Street
†Henneman, Harry E. LL.B., February, 1917, George Washington University	Wis.	4229 Grant Circle
Hoover, John Edgar LL.B., 1916, George Wash- ington University	D. C.	413 Seward Square, S.E.
Miehle, Robert Frank, Jr. LL.B., 1916, Northwestern University	Ill.	1832 Lamont Street
Monty, Willis Ellsworth LL.B., 1916, George Wash- ington University	Vt.	House Office Building
Morehouse, PGad Bryan Cornell College, Iowa; LL.B., 1916, George Wash- ington University	D. C.	Indian Office

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
*Shepard, William Wallace LL.B., 1916, LL.M., February, 1917, George Washington University	Cal.	2011 Columbia Road
Silver, Charles B.Chem., 1911, Cornell University; LL.B., 1916, George Washington University	Md.	Patent Office
*Smith, Henry Charles Albert Heidelberg University, Tiffin, Ohio; LL.B., 1916, George Washington University	Ohio	314 East Capitol Street
Tashof, Ivan Poppero E.M., 1912, Columbia University; LL.B., 1916, University of Kentucky	Ky.	918 F Street
*Torgerson, Gustavus Maurice LL.B., 1916, George Washington University	Ala.	1916 16th Street
Underwood, Joseph Younglove Ogden College, Kentucky; LL.B., 1916, George Washington University	D. C.	1402 L Street
*Vaughn, Orville R. LL.B., 1916, George Washington University	Tenn.	Treasury Department
Wham, Fred Louis LL.B., 1909, University of Illinois	Ill.	1741 Lanier Place
†Wilkins, Andrew Clifford State University of Illinois; LL.B., February, 1917, George Washington University	Ill.	The Cecil

SPECIAL STUDENTS

Allan, Ernest Anderson	Me.	1728 S Street
Allen, Charles Risdon	D. C.	3311 22nd Street, N.E.
†Avery, Willis F. University of Maine; Brown University	Me.	163 Rhode Island Avenue, N.E.
†Bangs, John Edward	D. C.	Barrister Building
†Beale, Frederick Bight M.E., 1909, Stevens Institute	Ill.	7220 Blair Road

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
†Braggins, Seth Erwin George Washington Univer- sity	N. Y.	924 Spring Road
Campbell, Jesse Miller D.D.S., 1888, National Uni- versity; LL.B., 1910, Wash- ington College of Law; M.P.L., 1911, George Washington University	Mo.	Patent Office
Clover, Mary Eudora Miller	D. C.	1525 New Hampshire Ave- nue
Corbin, Elmer L.	Ill.	Treasury Department
†Davidson, Arthur William A.B., 1899, Western Reserve University; LL.B., 1908. M.P.L., 1909, George Wash- ington University	Ohio	2934 24th Street, N.E.
†Davis, William W. University of Minnesota Law School	Mont.	3358 18th Street
De Vaughan, William Aloysius	Va.	209 North Royal Street, Alexandria, Va.
Edinburgh, Frank Peter A.B., 1903, Bethany College; A.M., 1905, University of Kansas	Kans.	618 Eye Street
Evans, Lloyd L. A.B., A.M., University of Denver	D. C.	Patent Office
*Fowlkes, Maynard Grady	Va.	1300 Pennsylvania Ave- nue
*Giblin, James Vincent A.B., 1914, Brown Univer- sity; A.M., 1915, Catholic University of America	D. C.	442 Massachusetts Ave- nue
Gompers, William J.	W. Va.	1414 Massachusetts Ave- nue
Greenewald, Eugene Ludwig B.S. in E.E., 1908, Univer- sity of Colorado; LL.B., 1916, National University Law School	Col.	511 McGill Building
†Halbert, Charles R. A.B., 1908, University of Maryland	Md.	Patent Office

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
†Haller, Fred W. A. S.B., 1905, Rose Polytech- nic Institute	Ohio	Patent Office
†Haskell, Frank Edward M.E., 1906, Cornell Univer- sity	N. Y.	438 Park Road
Hawxhurst, Henry LL.B., 1892; LL.M., 1893, Columbian University Law School	Va.	Bieber Building
†Heckmer, Marie Antoinette Do- lores	W. Va.	1024 Vermont Avenue
†Heiss, Ellery W. Ph.B., 1888, De Pauw Uni- versity	D. C.	3811 7th Street
†Hill, Edwin Allston A.B., 1875, A.M., 1901, Yale University; M.S., 1900, Ph.D., 1902, George Wash- ington University	Conn.	2246 Cathedral Avenue
†Kennedy, Alexander Ralph A.B., 1900, University of Pennsylvania	Pa.	35 B Street
Lake, Russell Brackett	Mass.	1842 Calvert Street
Lange, Clarence C.	Wis.	1331 K Street
Lassagne, Victor F. M.D., 1899, Jenner Medical College, Armour Institute of Technology	D. C.	1440 Meridian Street
*Leger, Benoit Leland B.E., 1911, University of Michigan	N. Y.	715 5th Street, N.E.
†Lowe, Emory Roscoe A.B., 1904, Wabash College	Ind.	Mt. Ranier, Md.
†Mann, Earle Elmer S.B., 1909, Worcester Poly- technic Institute	Mass.	1816 Euclid Street
*Manning, Harold Grosvenor S.B., 1912, Massachusetts Institute of Technology	Mass.	1313 K Street
*Mavroudi, Constantin	Turkey	1711 Connecticut Avenue
*Moses, Herbert B. LL.B., 1913, National Uni- versity Law School	N. Y.	Patent Office

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
†Muirling, J. H.	Holland	1229 12th Street
†Nelson, Axel	N. D.	Patent Office
George Washington University, University of North Carolina		
†Quick, S. Christine	D. C.	Commercial Bank Building
Rehm, Roland Carl	Ind.	Y. M. C. A.
S.B., 1912, Rose Polytechnic Institute, LL.B., 1916, Georgetown University Law School		
†Richard, Vernon Irving	D. C.	309 B Street, N.E.
George Washington University		
*Ruffner, Clarence Monroe	Pa.	1333 15th Street
Ryan, James A.	Minn.	Y. M. C. A.
Taylor, Fuller Farrith	Va.	1217 K Street
A.M., 1908, Harvard University		
Thomas, William L.	D. C.	927 F Street, S.W.
Walker, Morton Blaine	N. Y.	1842 Calvert Street
†Willits, George Hughes	Pa.	108 15th Street, N.E.
George Washington University		
*Wine, Louis Denham	D. C.	1324 Euclid Street
*York, Warren Monroe	D. C.	509 East Capitol Street

SUMMARY

Candidates for Degree of Bachelor of Laws	
First Year.....	144
Second Year.....	96
Third Year.....	100
Total.....	340
Candidates for Degree of Master of Laws.....	19
Total.....	359
Counted twice.....	3
Total candidates for degrees.....	356
Special students.....	48
Total all students.....	404
Candidates for degrees who are college graduates.....	110
Percentage.....	30.9
Candidates for degrees who have had all or part of a college course.....	209
Percentage.....	58.8

COLLEGE GRADUATES, CANDIDATES FOR DEGREES

Baker University.....	1	Military College of South Carolina.....	1
Barnard College.....	1	Millsaps College.....	1
Bethany College.....	1	Minnesota, University of....	2
Bowdoin College.....	1	Missouri, University of.....	2
Brown University.....	1	Missouri Valley College.....	1
Bucknell University.....	1	Nebraska, University of....	2
Butler College.....	1	New York University.....	1
California, University of....	1	North Carolina, University of.....	1
Campbell College, Holton, Kansas.....	1	Ohio Northern University....	2
Case School of Applied Sciences.....	3	Ohio State University.....	1
Clarkson College of Technology.....	1	Pennsylvania, University of..	2
Colby College.....	1	Princeton University.....	3
Colgate University.....	1	Randolph-Macon College.....	1
College of the City of New York.....	2	Rensselaer Polytechnic Institute.....	1
Colorado, University of....	2	Soochow University, China...	1
Columbia University.....	1	Swarthmore College.....	1
Cornell University.....	5	Tennessee, University of....	2
Dalhousie College.....	1	Union College.....	1
Dartmouth College.....	2	U. S. Naval Academy.....	7
Delaware College.....	1	University of the South.....	1
Dickinson College.....	1	Utah, University of.....	2
Ewing College.....	1	Vanderbilt University.....	1
George Washington University.....	11	Virginia Polytechnic Institute.....	1
Georgia, University of.....	2	Washington and Lee University.....	2
Gustaus Adolphus College...	1	Washington State College....	1
Hamilton College.....	1	Wesleyan University.....	1
Harvard University.....	3	Western Maryland University.....	1
Illinois, University of.....	1	Western Reserve University..	1
Iowa, Central University of..	1	William and Mary College....	1
Iowa Wesleyan University....	1	Wisconsin, University of....	1
Kansas, University of.....	2	Yale University.....	5
Lafayette College.....	1		115
Lehigh University.....	4		
Massachusetts Institute of Technology.....	4	Counted twice.....	5
Michigan, University of.....	1	Total.....	110

NATIONAL COLLEGE OF PHARMACY

CANDIDATES FOR THE DEGREE OF DOCTOR OF PHARMACY

Freshmen

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Bernstein, Samuel	Va.	601 2nd Street, S.W.
Brock, Bernard Gilliam	Fla.	R. F. D. No. 2, Alexandria, Va.
D'Leen, Louis John	Russia	Washington, D. C.
Jackson, Walter William	Va.	2901 14th Street
Johnson, Robert Harris	Pa.	558 14th Street, S.E.
Lacour, Raoul Louis	La.	1201 New Jersey Avenue
Warfield, Vernon Norwood	Va.	20 South Fairfax Street, Alexandria, Va.

Juniors

Bowman, Clayton Lawrence	Va.	609 S. Washington Street, Alexandria, Va.
Flemer, Henry Lewis	D. C.	701 Maryland Avenue, N.E.
Fegan, Frances Elizabeth	D. C.	493 H Street, S.W.
Fuhrman, Wallace Joseph	D. C.	724 East Capitol Street
Faulkner, Halbert Laird	Texas	1330 B Street, S.E.
Glycofrides, Ellis Eustace	Turkey	925 9th Street
Hughes, Stevens	D. C.	2226 N Street
Linhos, Elon Frederick	Va.	621 4th Street
Nugent, Francis Xavier	Va.	Alexandria, Va.
Payne, Fred Addison	N. Y.	919 North Carolina Ave- nue, S.E.
Swoboda, Charles Alois	Bohemia	Walter Reed Hospital
Schwartz, Martin Seymour	N. Y.	116 North Carolina Ave- nue, S.E.
Thornton, Latha Clare	Ala.	800 L Street

Seniors

Bradshaw, Walter Nelson	Va.	17th and Park Road
Burley, Allan	Va.	129 Thomas Street
Dement, William Edward	D. C.	619 North Carolina Ave- nue, S.E.
Flemer, George Roosevelt	D. C.	701 Maryland Avenue, N.E.
Frailey, William Albert	Md.	The Sherman
Heller, Theodore John	D. C.	740 7th Street, S.E.
Johnson, Perry Marshall	Va.	120 South Henry Street, Alexandria, Va.

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Norris, Walter Benton	Md.	2102 1st Street
Paylor, Russel Stute	N. C.	1427 R Street
Payewski, Peter Joseph	Russia	701 Maryland Avenue, N.E.
Stewart, William Alfred Turner	Idaho	1407 Rhode Island Avenue.
Tong, Li Ta	China	457 G Street
Williams, Thomas Franklin	Va.	18th and Florida Avenue

SPECIAL STUDENTS

Forbes, George Hines	D. C.	150 U Street
Starbecker, Moses	N. Y.	318 New York Avenue
S.B., 1910, College of the City of New York		

SUMMARY

Freshmen.....	7
Juniors.....	13
Seniors.....	13
Special.....	2
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	35

COLLEGE OF VETERINARY MEDICINE

CANDIDATES FOR THE DEGREE OF DOCTOR OF VETERINARY MEDICINE

Freshmen

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Barney, Joseph Clement	Mass.	2115 14th Street
Birmingham, Charles Henry	N. Y.	1404 15th Street
Clark, John Edward	Md.	2113 14th Street
Evans, Harley Parker	D. C.	1240 New Jersey Avenue
Fribourg, Robert Davis	N. J.	441 7th Street, S.W.
Greene, Rudolph	Ill.	2115 14th Street
Grenfell, Carroll Joseph	D. C.	1916 H Street
Heath, George E. C.	D. C.	1657 Montello Avenue, N.E.
Lockwood, Charles Raymond	D. C.	416 N Street
Mack, James Hunter	Va.	2115 14th Street
Moskey, Henry Eugene	D. C.	2501 Pennsylvania Avenue
Pullman, James Frederick	Va.	Alexandria, Va.
Rubino, Frank	D. C.	631 2nd Street
Schaefer, John W.	Va.	420 Columbia Road
Shilling, Leo Leland	Okla.	Mt. Ranier, Md.

Sophomores

Baessell, Norman	D. C.	709 Columbia Road
Bengel, William Godman	D. C.	3530 Warder Street
Biester, Harry Edward	Pa.	22 2nd Street, N.E.
Bingman, Harry	Pa.	1409 L Street
D.D.S., 1912, George Wash- ington University		
Carl, John Clarence	N. C.	1929 35th Street
Dawson, Harry Hampden	Va.	105 2nd Street, N.E.
Dodge, Walter Spencer	D. C.	742 Rock Creek Church Road
Drinkwater, Louis Percival	Maine	706 20th Street
Fell, Thomas Buckley	Wash.	931 K Street
Foster, Winthrop Davenport	Mass.	6006 33rd Street
Gehres, Jacob Zirby	Pa.	1224 13th Street
Higgins, Daniel Ernest	Maine	1712 F Street
Khuen, Edward Charles	D. C.	119 G Street
King, John Joseph	D. C.	2308 P Street
Kritt, Abe	D. C.	2147 P Street
Magens, Hans Juergen	N. Y.	Soldiers Home
Melvin, Fordyce Harriman	D. C.	1751 Park Road

<i>Name</i>	<i>Legal Residence</i>	<i>Address</i>
Mims, Malcus Carson	N. C.	1121 I Street
Mohler, William Melvin	D. C.	1620 Hobart Street
Newman, Raymond W.	Cal.	1401 Massachusetts Avenue
Patterson, James	Va.	1010 Cameron Street Alexandria, Va.
Phillips, Charles Latimer	Va.	723 Euclid Street
Romberger, Earl Ellsworth	Pa.	708 19th Street
Russell, Alden Hesseltine	Mass.	2115 14th Street

Juniors

Chase, Lester Gilbert	Maine	1403 12th Street
Criswell, Lindsay Leland	Ind.	508 B Street, N.E.
Dennewitz, Homer Arresta	Ohio	Y. M. C. A.
Haas, Joseph Peter	Pa.	927 New York Avenue
Hines, Laurence Irwin	Neb.	215 9th Street, S.W.
Johnson, Burnett Carpenter	Minn.	416 Shepherd Street
Kelser, John Oscar	D. C.	231 14th Street, N.E.
Lanahan, Frank Robert	D. C.	1119 K Street, N.E.
Oyster, Francis Larmour	D. C.	612 East Capitol Street
Price, Emmett William	W. Va.	1416 Clifton Street
Seymour, Walter Eugene	Ohio	914 Massachusetts Avenue
Wessell, Francis Henry	Conn.	718 18th Street

Seniors

Lewis, Ralph Henry	Md.	Riverdale, Md.
Neale, Harry Vincent	D. C.	4211 River Road
Nichols, Robert Lee	Md.	Laurel, Md.
Pulsifer, Walter Clyde	N. H.	811 13th Street
Savage, Howard Mayo	Okla.	1117 Vermont Avenue
A.B., 1899, College of Emporia,		
Thigpen, Claude	Ala.	The Cavendish
Wright, Willard Hull	Ohio	3028 Park Place

SUMMARY

Freshmen.....	15
Sophomores.....	24
Juniors.....	12
Seniors.....	7
Students Enrolled.....	58

STUDENT ENROLLED 1915-16, TOO LATE TO BE INCLUDED
IN THE MARCH CATALOGUE

COLUMBIAN COLLEGE

Hinds, John Hamilton	Ark.	1301 K Street.
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DEGREES CONFERRED AT COMMENCEMENT, 1916

HONORARY

Doctor of Science

David Watson Taylor

Doctor of Letters

Wendell Phillips Stafford

Doctor of Divinity

Henry William Oldknow Millington

IN COURSE

Doctor of Philosophy

Gertrude Richardson Brigham.....	Massachusetts
A.B., 1913; A.M., 1914, George Washington University	
Horace Hatch Custis.....	District of Columbia
A.B., 1906, Johns Hopkins University; A.M., 1908, George Washington University	
Harry Church Oberholser.....	New York
A.B., 1914; S.M., October, 1914, George Washington University	
Mildred Esther Scheetz.....	Iowa
B.E., 1913, State Normal School, Peru, Nebraska; M.D., 1912, M.S. in Med., 1913, State University of Iowa	
James Robert Scott.....	District of Columbia
A.B., 1908, University of California; M.D., 1912, Leland Stanford University (Cooper Medical)	
Christian George Storm.....	New York
S.B., 1898; S.M., 1899, George Washington University	

Master of Arts

Edwin Franklin Albertsworth.....	District of Columbia
A.B., 1915, George Washington University	
James Dodson Basey.....	Oregon
A.B., 1915, University of South Carolina	
Margaret Bayly.....	District of Columbia
A.B., 1914, George Washington University	
Martha Noyes Birnie.....	District of Columbia
A.B., 1915, George Washington University	
Walter Andrew Bloedorn.....	District of Columbia
M.D., 1909, Creighton University, Omaha; A.B., 1915, George Washington University	
Marcia Bready.....	New York
A.B., 1905, Bryn Mawr College	

Louis Hill Gourley.....	Illinois
A.B., 1912, University of Illinois	
George Wilson Hodgkins.....	District of Columbia
A.B., 1915, George Washington University	
Harold Keats.....	District of Columbia
A.B., 1912, George Washington University	
Pedro Celestino Lavadia.....	Philippine Islands
S.B., 1916, Cornell University	
John Charles Muerman.....	District of Columbia
A.B., 1910, Washington State College	
Earl Stephens Neal.....	Texas
A.B., 1915, Howard Payne College	
John Arthur Franklin Pfeiffer.....	Maryland
M.D., 1908, Baltimore Medical College	
Stella Ruth Schenck.....	Indiana
A.B., 1914, George Washington University	
Carl Ober Spamer.....	Maryland
LL.B., 1914, University of Maryland	
William Lawrence Wanlass.....	Utah
A.B., 1915, George Washington University	
Anita Alvera Wilson.....	New York
A.B., 1908; M.D., 1911, Syracuse University	

Master of Science

Ella Morgan Austin Enlows.....	West Virginia
A.B., 1915, George Washington University	
Delos Hamilton Smith.....	District of Columbia
B.S. in Arch., 1906, George Washington University	
Edward Elmer Smith.....	Idaho
B.S. in Chem. Eng., 1914, University of Idaho	
Alexander Wetmore.....	District of Columbia
A.B., 1912, University of Kansas	
Richard Calvert Williams.....	Maryland
S.B., 1914, Maryland Agricultural College	

Civil Engineer

Charles Wightman Barber.....	District of Columbia
B.S. in C. E., 1915, George Washington University	

Mechanical Engineer

Harold DeWolf Hatfield.....	District of Columbia
B.S. in M. E., 1915, George Washington University	
Clinton Inness McClure.....	Kansas
B.S. in M. E., 1915, George Washington University	
George Valentine Whittle.....	New York
Graduate, 1914, Webb Academy	

Bachelor of Arts

Walter Richardson Alexander.....	Missouri
Marjorie Barnes.....	District of Columbia
(With distinction)	
Joanna Elizabeth Best.....	District of Columbia
Mabel Elizabeth Blanchard.....	District of Columbia
Yetta Brez.....	District of Columbia
(With distinction)	
Margaret Marian Browne.....	District of Columbia
(With distinction)	
Ellen Teresa Burke.....	District of Columbia
Johannes Paul Caemmerer.....	Wisconsin
Ernest R. Chamberlain.....	Kansas
Julian Wallace Cunningham.....	District of Columbia
William Joseph Devine.....	Pennsylvania
Donald Montgomery Earll.....	District of Columbia
Marie Ellen Gatchell.....	District of Columbia
(With distinction)	
George Thomas Gilleland.....	Mississippi
Margaret Haines.....	Pennsylvania
Luis Herrera Geigel.....	Porto Rico
Lotus Graham Hughes.....	West Virginia
Oscar Benwood Hunter.....	Virginia
M.D., 1912, George Washington University	
John Miller Jeffries.....	District of Columbia
Maximo Manguiat Kalaw.....	Philippine Islands
Frank Joseph Kelly.....	Wisconsin
Louis Eugene McArthur.....	Utah
(With distinction)	
Dorothy McCleary.....	District of Columbia
Donald Harrison McKnew.....	District of Columbia
George Elmer Middleton.....	District of Columbia
Walter Wolf Ostrow.....	Virginia
Elizabeth Hamilton Partington.....	Maryland
Mildred Anna Phoebus.....	District of Columbia
Alma Henrietta Preinkert.....	District of Columbia
Herbert Percy Ramsey.....	District of Columbia
Wilbert Vernon Renner.....	District of Columbia
Paul George Russell.....	New York
Annie Salant.....	District of Columbia
Frieda Lorenz Spamer.....	Maryland
Benjamin Lionel Tepper.....	New Jersey
Leo Claude Terry.....	Pennsylvania
Lloyd Howard Van Kirk.....	Pennsylvania
Wu Ying.....	China

Bachelor of Arts and Bachelor's Diploma in Education

Helen Gordon.....	Illinois
Amy Beatrice Gronna.....	North Dakota
Mary Hedgecock Grover.....	Indiana
Mildred May Hughes.....	District of Columbia
Dorothy Buhrman Kalb.....	District of Columbia
Margaret Morton Knowles.....	District of Columbia
(With distinction)	
Charles Kothe.....	New York
(With distinction)	
Anna Leila McKnight.....	District of Columbia
Josephine Dwight Mason.....	District of Columbia
Julia Elizabeth Ruff.....	District of Columbia
Mary Louise Underwood.....	District of Columbia
Margaret Sharpless Willits.....	District of Columbia
Katherine Minsker Zeiders.....	Pennsylvania

Bachelor's Diploma in Education

George Wilson Hodgkins.....	District of Columbia
A.B., 1915, George Washington University	
Pedro Celestino Lavadia.....	Philippine Islands
S.B., 1916, Cornell University	

Master's Diploma in Education

John Charles Muerman.....	District of Columbia
A.B., 1910, Washington State College	

Bachelor of Science in Chemistry

Abraham Engel.....	New York
Leopold A. Goodman.....	Massachusetts

Bachelor of Science in Medicine

Daniel Le Ray Borden.....	District of Columbia
M.D., 1912, George Washington University	
Coursen Baxter Conklin.....	District of Columbia
M.D., 1907, George Washington University	

Bachelor of Science in Architecture

H. Ward Stutler.....	West Virginia
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Bachelor of Science in Civil Engineering

George Albert Degenhardt.....	Pennsylvania
Walter Johannessen.....	Texas
Oliver Graham Magruder.....	District of Columbia
Moses Allyn Wadhams.....	Connecticut

Bachelor of Science in Electrical Engineering

Albert Arnold Brand, Jr.	Indiana
John Ralph Fehr	Illinois
LL.B., 1913, George Washington University	
M.P.L., 1913, Georgetown University	
Louis Mann Heron	District of Columbia
George J. Schladt	Maryland
McClain Barnitz Smith	District of Columbia

Doctor of Medicine

John Nevins Andrews	District of Columbia
Carlos Nicolas Brin	Panama
Morris Catzva	Russia
LeRoy Elmer Coolidge	Pennsylvania
Sydney Charles Cousins	District of Columbia
Eleanore Scholl Cushing	Illinois
John Eugene Folsom	District of Columbia
Stewart Maxwell Grayson	Virginia
Roy Terry Haskell	District of Columbia
Jarrett Matthew Huddleston	District of Columbia
Burton LeRoy Jacobs	Tennessee
A.B., 1913, Union College, Nebraska; A.M., 1914, University of Nebraska	
John Morris Ladd	Virginia
Louis Eugene McCanna	New York
Edward Bailey Macon	District of Columbia
Phar.G., 1912, State College, Angola, Indiana	
Richard Thomas Powers	New York
James Archibald Ramsay	Canada
Fritz August Reuter	District of Columbia
Eugene Clarence Rice, Jr.	District of Columbia
Rafael Rivera Aulet	Porto Rico
Louis Charles Rosenberg	Connecticut
Vincent Joseph Stachniewicz	District of Columbia
Ernest Kenneth Stratton	New Jersey
P.D., 1910, Philadelphia College of Pharmacy	
Sterling Price Taylor, Jr.	District of Columbia
(With distinction)	
Leo Cromwell Thyson	District of Columbia
Phar.D., 1912, George Washington University	
Joel Adams Tilton, Jr.	District of Columbia
Robert Ralph Walton	Washington
Paul Amos White	District of Columbia
S.B., 1908, Simpson College; Ph.B., 1908, University of Chicago	

Nurse's Certificates

Dolores L. Armijo.....	New Mexico
Nannie Holme Blackmore.....	Virginia
Bernice Lucille Davis.....	Virginia
Ernestine May Dodd.....	District of Columbia
Mary Frances Gallagher.....	Ireland
Anne Iona Garber.....	Virginia
Ruth Pauline Gray.....	Maryland
Minnie Harwood Hall.....	Virginia
Mary Louise Harrover.....	District of Columbia
Willa Snyder Hollida.....	West Virginia
Elizabeth Page Jolliffe.....	Maryland
Lucy Mae Kelley.....	District of Columbia
Evelyn Lewis Lee.....	Virginia
Genevieve F. Loughhead.....	New York
Louise Melton.....	North Carolina
Cassie L. Sutherland.....	Virginia
Susie Catherine Whalen.....	District of Columbia

Doctor of Dental Surgery

Charles Pindall Aspinall.....	West Virginia
Gershko Boriosovski.....	Russia
D.D.S., 1913, University of Kieff, Russia	
Eric Hjalmar Burgess.....	Rhode Island
John K. Butkiewicz.....	Illinois
(With distinction)	
John Burns Cole.....	Missouri
(With distinction)	
Albert Wendell Davis.....	District of Columbia
Bernard Martina Davis.....	Maryland
William E. Forbes.....	New York
George Mortimer Frazier.....	District of Columbia
Paul Supplee Herring.....	Maryland
Joseph Aloysius Lynch.....	New York
Robert Campbell McCullough.....	Illinois
Clarence Robert Moore.....	Virginia
(With distinction)	
John Edward Morgan.....	District of Columbia
Mitsuru Okada.....	Japan
Adolph Sandberg.....	Massachusetts
John Hebb Shadrick.....	Maryland
(With distinction)	
Edwin LeRoy Stein.....	Washington
Albert William Willard.....	Maine
Myron Webster Wilson.....	District of Columbia
May Wolf.....	District of Columbia

Bachelor of Laws

James Thatcher Allen.....	Kentucky
Lawrence Adams Baker.....	District of Columbia
A.B., 1913, Princeton University	
Joseph Harper Batt.....	Delaware
A.B., 1914, George Washington University	
Lewis T. Breuninger.....	District of Columbia
A.B., 1913, Johns Hopkins University	
Alvin McCreary Brown.....	Maryland
A.B., 1914, George Washington University	
Charles Roy Bull.....	Maine
A.B., 1913, Bowdoin College	
William Eden Burchfield.....	District of Columbia
Pierre Audrey Chamberlin.....	District of Columbia
Marion Clark.....	Maryland
A.B., 1901; A.M., 1904, Western Maryland University	
John Dee Cox.....	Texas
Roy Linney Deal.....	Virginia
A.B., 1911, George Washington University	
(With distinction)	
Harry Tennyson Domer.....	District of Columbia
A.B., 1900; A.M., 1903, George Washington University	
Marshall H. Francis.....	Ohio
George Geekie.....	Massachusetts
John Thomas Greene.....	Utah
Will Reeves Gregg.....	Texas
A.B., 1913, Austin College	
(With distinction)	
Lonnie Slavens Haymes.....	Missouri
B.Pe., 1913, Springfield, Missouri, State Normal School	
Howard Wilkinson Hodgkins.....	District of Columbia
B.S. in C. E., 1913, George Washington University	
John Edgar Hoover.....	District of Columbia
Paul N. Humphrey.....	Nebraska
Edwin Brendel Hunt.....	District of Columbia
Joseph Pierson James.....	California
Henry J. Kent.....	District of Columbia
Ewing Mitchell Laporte.....	Missouri
Randell J. Larson.....	North Dakota
A.B., 1913, University of North Dakota	
Franklin Samuel Long.....	Illinois
Edwin North McClellan.....	Pennsylvania
Harold Newman Marsh.....	Maine
A.B., 1909, Bowdoin College	
Willis Ellsworth Monty.....	Vermont
PGad Bryan Morehouse.....	District of Columbia
Raymond J. Morman.....	Pennsylvania

Paul Forest Myers.....	Pennsylvania
A.B., 1913, Princeton University	
Kenneth Stanley Neal.....	Connecticut
S.B., 1911, Worcester Polytechnic Institute	
(With distinction)	
Homer Phillips.....	District of Columbia
Kenneth G. Pringle.....	Illinois
Thomas William Rhoads.....	Pennsylvania
Alexander C. Robeson.....	District of Columbia
Harry Hodges Semmes.....	District of Columbia
S.B., 1913, Dartmouth College	
(With distinction)	
Homer Tipton Shaver.....	Oregon
A.B., 1913, Pacific University	
William Wallace Shepard.....	California
Charles Silver.....	Maryland
B. Chem., 1911, Cornell University	
Henry Charles Albert Smith.....	Ohio
Myron A. Smith.....	Texas
A.B., 1913, Austin College	
Clarence Andrew Sprague.....	District of Columbia
S.B., 1904, Syracuse University	
Lew Wallace Springer.....	New Mexico
A.B., 1914, George Washington University	
Alfred L. Stoddard.....	Iowa
George Kenneth Thomas.....	Colorado
A.B., 1914, Yale University	
Gustavus Maurice Torgerson.....	Alabama
Joseph Younglove Underwood.....	District of Columbia
Arthur Nye Van Vleck.....	District of Columbia
Orville R. Vaughn.....	Tennessee
(With distinction)	
Henry Frank Wiegand.....	District of Columbia
B.S. in E. E., 1911; E. E., 1913, George Washington University	
(With distinction)	
Clarence Edward Wright.....	Utah
Carl Monroe Wynne.....	Missouri
A.B., 1913, University of Missouri	

Master of Laws

Louis Alfred Bisson.....	Massachusetts
LL.B., 1915, George Washington University	
Chalsia E. Crews.....	Missouri
LL.B., 1915, George Washington University	
William Reed Fitch.....	North Dakota
LL.B., 1915, George Washington University	

Lauritz G. Haugen.....	Iowa
LL.B., February, 1916, George Washington University	
Shirley Penrose Jones.....	Utah
LL.B., 1915, George Washington University	
Earle Linsley Parmelee.....	Pennsylvania
LL.B., 1915, George Washington University	
Raymond Edgar Read.....	Massachusetts
LL.B., 1915, George Washington University	
John Joy Reinhardt.....	Nebraska
LL.B., 1915, George Washington University	
George Cephas Rogers.....	New York
LL.B., February, 1916, George Washington University	
Arthur C. Schenck.....	District of Columbia
LL.B., 1915, George Washington University	

Doctor of Pharmacy

Howard Leslie Arnold.....	Virginia
Alfred Blumberg.....	Montana
Ph.M., 1905, Royal Francis Joseph University, Temesvar, Hungary	
John Thompson Colahan.....	Maryland
B.T., 1902, St. Mary's Seminary, Baltimore, Maryland	
Thomas Francis Donahue.....	District of Columbia
James Walter Dudley.....	District of Columbia
James Albert Fink.....	District of Columbia
John Marshall Gaines.....	Virginia
James William Kelly.....	Virginia
Ralph Sylvester Kiefer.....	Pennsylvania
Lico Benitez Leon.....	Cuba
George Vail Minick.....	Pennsylvania
Archie Carlyle Painter.....	District of Columbia
Albert Austin Riley.....	Ohio
Clyde Elwood Snider.....	Kansas
Clyde Gray Williams.....	Pennsylvania

Doctor of Veterinary Medicine

William Nathan Berg.....	New York
S.B., 1904, Ph.D., 1907, Columbia University	
Harry James Biondi.....	District of Columbia
Herbert Hyde Brown.....	Missouri
Kenneth Earl Buffin.....	Maryland
William Hugh Grubb.....	Virginia
(With distinction)	
Maurice Crowther Hall.....	District of Columbia
S.B., 1905, Colorado College; A.M., 1906, University of Nebraska; Ph.D., 1915, George Washington University	

William Monroe Lynn.....	North Carolina
Joseph Briggs Munro.....	Rhode Island
Charles William Rippon.....	Pennsylvania
Andrew James Sipos.....	Virginia
Charles David Skippon.....	Pennsylvania
Floyd Percy Wilcox.....	New York

AT OCTOBER CONVOCATION, 1916

Master of Arts

Joseph Masone.....	Italy
Graduate, 1912, R. Scuola Normale, Caschile, Pisa, Italy	

Master of Science

Frank Macquarie Moxon.....	Ohio
A.B., 1915, Maryville College; Sc.B., 1915, Valparaiso University	

Doctor of Medicine

Austin Ottis Conaway.....	West Virginia
Jaime Julian Figueras.....	Porto Rico
Edward Raymond Hunter.....	New Jersey
M.D., 1914, Hahnemann Medical College	
William Harrison Norton.....	New York
Phar.D., 1912, George Washington University	
Frank Kevon Ryan.....	New York
Joseph Shilen.....	New York

Doctor of Dental Surgery

Patterson Bayne Johnston.....	Virginia
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Bachelor of Laws

Claude Buren Sanford.....	Tennessee
A.B., 1914, University of Tennessee	

AT WINTER CONVOCATION, 1917

IN COURSE

Master of Arts

James Harold Collins.....	District of Columbia
A.B., 1907, Bowdoin College; M.D., 1915, George Washington University	
Henry Lewis Swain.....	Virginia
Th.G., 1905, Louisville Theological Seminary; A.B., 1916, Wake Forest College	

Bachelor of Arts

Gail Fitch Moxon.....District of Columbia
 Ivan Snider (As of June 9, 1915).....Oklahoma

Bachelor of Science in Chemistry

Peter John Donk.....District of Columbia
 George Washington Phillips.....District of Columbia

Bachelor of Science in Electrical Engineering

Norman Bruce Ames.....Virginia
 B.S. in E.E., 1915, Mississippi Agricultural and Mechanical
 College

Doctor of Medicine

Jerome Thurston Quirk.....Virginia

Nurse's Certificate

Hazel Hixson Hayes.....Ohio

Doctor of Dental Surgery

Irwin Bertram Cohen.....Alabama

Bachelor of Laws

Wallace Irving Atherton.....Washington
 Chester C. Baxter.....Ohio
 S.B., 1908, Ohio Northern University
 Tremaine Kellogg Burrows.....New York
 A.B., 1897, University of Nebraska
 Stephen Lanhern Desha, Jr.....Hawaii
 Howard Whedon Dix.....New York
 M.E., 1911, Cornell University
 Henry Herman Draeger.....South Dakota
 Barritt Galloway.....Oklahoma
 Robert Frank Gross.....California
 Graduate, 1907, U. S. Naval Academy
 Harry E. Henneman.....Wisconsin
 (With distinction)
 Rosser Lee Hunter, Jr.....District of Columbia
 David Brewer Karrick.....District of Columbia
 A.B., 1914, Yale University
 John Ridley Shields.....Louisiana
 Andrew Clifford Wilkins.....Illinois

Master of Laws

William Wallace Shepard.....California
 LL.B., 1916, George Washington University

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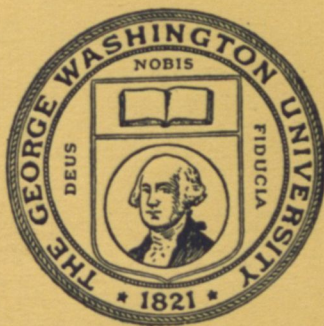
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THE INFLUENCE OF SEPTIC FOCI UPON CHRONIC URETHRITIS*

BY DANIEL LEROY BORDEN, A.M., M.D.

Associate in Surgery and Gynaecology

During the past year my attention has been called to certain cases of focal infection with chronic urethritis existing as a complication and it is my desire to emphasize given details in regard to this seemingly unimportant but distressing condition as seen in the female.

The female urethra but 2 to 5 cm. in length is made up of a layer of epithelium which is continuous with the bladder above and with the vestibule below so that at the vesical end there exists a simple columnar type of cells where as the terminal end is composed of stratified squamous epithelium. In the state of rest this delicate epithelial lining is thrown into folds and it is only during the act of micturition that the canal is distended to a tubular shape. The nerve supply is received from branches of the pudic and the hypogastric plexus of the sympathetic by way of the cavernous plexus. The sensory fibers are distributed to the mucous membrane in which they end mostly as free but to some extent as special terminations which penetrate between the epithelial cells.

Functionally the female urethra serves the single purpose of conducting urine from the bladder to the meatus. Anatomically there are a few details worthy of consideration. The meatus opening into the vestibule is in close relation with the vaginal orifice, the urethro-vaginal septum alone intervening. The external urethral sphincter contains muscular fibers continuous with the sphincter vaginal constricting the urethra at its terminus and it is common knowledge that this sphincter resists dilatation more than any other portion of the urethra. This serves as a protection but it may also act to dam back purulent secretions in the event of an infection. Lastly,

* Read October 21, 1916.

Skene's glands opening directly upon the floor of the urethra are prone by way of their location to invasion.

The preëxisting cause of nearly all cases of chronic urethritis may be traced back to an acute attack which may have occurred months or even years before. In my cases I have noted that the patient gives an accurate and definite account of the onset of her trouble. As to the initial causes of the primary acute urethritis much may be said but they may be classed under the three main heads of bacterial, chemical and traumatic. Kelly, Hofmeister, Melchior, Choostek and others have shown that the normal female urethra may harbor bacteria of all descriptions and this may be understood when one considers the anatomical relation of the urethra. An invasion into the urethra resulting in acute inflammation of its mucosa may be of gonorrheal, colon, staphylococcic, streptococcic or tubercular origin. Of these the Neiserian is the most common offender.

Chemical irritation may result from over dosage of copaiba, cubeb, cantharides, urotropin, turpentine, potassium iodide or alcohol. Direct medication of irritating drugs will in like manner produce an acute urethritis.

Traumatically, the catheter receives the burden of blame, but the introduction of foreign bodies deserve consideration as a possible cause of an acute inflammation.

An acute urethritis having been established it terminates in one of two ways—it becomes chronic or it goes into resolution with resulting recovery.

Having gone briefly into the primary etiology of acute urethritis which being prolonged becomes chronic in nature, I want to defer for the moment the discussion of the secondary or the apparent reason for the continuation of the inflammation.

The symptomatology may be discussed under two heads, local and general. Locally there is pain upon voiding which is usually burning in character. A desire to urinate frequently is an almost constant symptom but not always so. If there is a urethral discharge it is seldom noticed by the patient for any leakage in the region of the vulva is nearly always taken to mean a leucorrhoea. Periurethral itching is present in ex-

ceptional cases. Inspection with the Kelly air cystoscope reveals a marked inflamed urethral membrane with occasional minute points of capillary hemorrhage.

The constant wearing of a continual local irritation is more apt than not to produce a marked effect upon the central nervous system so that we note a general irritability which comes and goes with the changes in the severity of the local symptoms.

Eliminating complications involving the kidney, ureter or bladder we note above all that we have to deal with a disease which is characterized first, by its chronicity and secondly, by its periodicity, i.e., there are times when it is better and times when it is worse.

In such cases where this be true there seems to be some definite reason for this fluctuation of symptoms. As the urethra itself presents nothing definite to account for this and as the condition continues in spite of local treatment we are forced to look further for a possible explanation. Hunner in 1911 first pointed out that an infected tonsil was often the seat of trouble. Working along these lines I have concluded that a pyorrhea, an infected frontal sinus, antrium or any other local focus of infection may be responsible for a continued urethritis. During an acute exacerbation of a local infection there is thrown into the general circulation toxins which when excreted through the urinary system act as a chemical irritant upon the already inflamed urethra and produce typical symptoms.

CASE REPORTS

1. Miss M. R., age 34 years, gave history of acute attack of urethritis following a catheterization. Had suffered ever since and had tried every form of treatment. Condition would get better and then worse. I first saw her ten months ago and treated her locally for four months with but partial success. I then had her tonsils, sinuses and teeth examined. All were negative except her teeth. These were treated in conjunction with her urethra and in a very short time all symptoms of urethritis disappeared. This case was especially clear cut for I had her under observation for a long period of time.

2. Mrs. F. D., age 76, gave history of an acute attack of urethritis three years ago. Condition had been chronic ever since in spite of local treatment.

Patient had a few bad teeth and these received immediate attention together with local treatment to urethra. All symptoms of chronic urethritis disappeared after three weeks.

3. Mrs. R. M., age 32, gave history of chronic urethritis following an acute attack. Condition had existed for seven years without relief. Patient had had local treatment for a long period of time. She stated definitely that her condition was worse every time her throat was sore. Examination showed small infected tonsils. These she refused to have removed. Local treatment to tonsils and urethra, was instituted and her condition was greatly improved but not entirely cured.

CONCLUSION

The treatment of chronic urethritis depends upon the eradication of all foci of local infection together with the usual dilatation and medication directly to the urethra and trigone of the bladder. This is best accomplished through the Kelly cystoscope with the patient in the knee chest position. To effect a cure great patience on the part of both physician and invalid is required.

FILARIASIS: REPORT OF TWO CASES IN THE DISTRICT OF COLUMBIA, AND ANALYSIS OF THE CASES REPORTED FOR EASTERN NORTH AMERICA*†

BY MARCUS W. LYON, JR., PH.D., M.D.

Professor of Bacteriology and Pathology

The term "filariasis" as here used is restricted to infections with *Filaria bancrofti* or at least with worms having embryos apparently of that type. Most of these infections in the northern states have occurred in persons who have acquired the parasite in the tropics and are consequently lacking in the interest which indigenous diseases possess. As an examination of the published cases, however, shows that, excepting two large series reported from Charleston, S. C., less than fifty have been recorded for eastern North America, one may perhaps be pardoned for reporting two other imported cases, especially as the disease may become endemic in this latitude, if it not already is.

Following a consideration of these two cases is a summary of what, it is hoped, are all of the cases previously reported, with a discussion of each case or group of cases. As compilers are only human, probably recorded cases in eastern North America have been inadvertently overlooked. Only cases in which adult or embryo worms were actually found have been considered.

It is not to be supposed that the 142 cases reported for eastern North America represent anything like the incidence of filariasis in this country. They are more apt to represent careful diagnosis and interest on the part of observers to report them. Judging by the large number of indigenous cases found in Charleston, S. C., one would expect them to be equally numerous in other southern cities; yet but few have been

* Read November 18, 1916.

† Reprinted from the Journal of the American Medical Association, January 13, 1917.

reported in them. In going through the *Index Medicus*, the indexes of the Journal, the International Catalogue of Scientific Literature and the cards of the Zurich *Concilium Bibliographicum* in looking for published records, I made no special effort to search for reports of filariasis on the Pacific coast. Two published records, however, show it to be present there. Wellman, von Adelung and Eastman¹ report filariasis as constantly present about San Francisco Bay, and describe some experiments with feeding mosquitoes on an infected Japanese; von Adelung² reports a case of chyluria in a Japanese, with embryos present.

As previous writers and the standard textbooks deal with the morphology, the life history, etc., of *Filaria*, and as these facts are generally well known at the present time, no reference to that aspect of filariasis will be made here. Only an analysis of the cases previously described in eastern North America and the two here recorded will be attempted.

Case 1. Colored medical student at Howard University, in 1902, between 20 and 25 years of age, native of Trinidad, West Indies.

This case was accidentally discovered by Dr. Paul Bartsch in teaching histology. At that time the medical course at Howard University was given at night, and in the routine study of students' fresh blood the moving embryos were found. This student was well developed, as shown by anthropometric measurements taken by Dr. Bartsch, and had no chyluria or enlarged glands. He appeared mentally listless and was unable to complete his medical course on that account. When first coming under observation he had been away from Trinidad for three years, and was under Dr. Bartsch's observation for one and a half years when he left the medical school and was lost sight of. Embryos were present in his blood when last seen, that is, four and a half years since leaving the tropics. The largest number of embryos found in a single drop of blood was seven, or about 150 per cubic centimeter, in blood obtained after 10 p.m. At 8 p.m. an occasional embryo was found in a drop, sometimes none, never more than one. During the day embryos were never found in drops examined, although many attempts were made to find them. At that time Rivas and Smith's method of drawing

¹ Wellman, Creighton, von Adelung, Edward, and Eastman, Finley M.: The Relation of Mosquitoes to Filariasis in the Region of San Francisco Bay, *The Journal A. M. A.*, July 16, 1910, p. 217.

² Von Adelung, Edward: *California State Jour. Med.*, 1911, 9, 27.

a few cubic centimeters from a vein and placing it in dilute acetic acid solution was unknown. In petrolatum ringed preparation of drops of blood, Dr. Bartsch has observed the embryos moving after a lapse of twenty-two days. The listless condition of this patient may have been due to a simultaneous infestation with hookworms, but his feces were not examined for them. I doubt if filariasis was the cause of it.

Case 2. Patient of Dr. George N. Overton, who suspected filariasis, and in conjunction with Dr. Walter Van Swearingen made a positive diagnosis by a night examination of the blood. Dr. Overton has kindly furnished blood from this patient for the past three years for use in my classes in clinical microscopy. Living embryos from this case were exhibited² at the Biological Society of Washington, March 25, 1916.

The patient is a bright, intelligent colored girl, aged 19 years, born in British Guiana. She has lived in Panama, whence she came to Washington in 1911, five years ago, in order to attend the Armstrong High School, where she was graduated this year. Her family history is negative except for a sister who has filariasis (diagnosed by symptoms), now living in British Guiana. Eight years ago while in British Guiana, she first noticed swelling of the right leg, later attended with intense pain and a "drawing" sensation of the limb, with headache, fever and chills; often she would retire feeling well only to be awakened with these symptoms: walking or any vigorous exercise would precipitate an attack. During these attacks there appeared a large lump in the right inguinal region which would slowly travel down the thigh, then to the leg and finally disappear in the region of the ankle. These attacks would number about three a month, lasting about one week. She received medical treatment at Demarara and Panama with negative results. In 1911 she came to the United States, and was soon after attacked in usual way. Three years ago she came under Dr. Overton's care, and the positive diagnosis of filariasis was made. This patient's blood has been examined only at night, from 9 to 10 p.m., and shows from one to three or four embryos in each drop; this is about 20 to 100 embryos per cubic centimeter. Aside from the embryos and an eosinophilia of from 10 to 15 per cent., her blood picture is normal. The treatment given by Dr. Overton has been local applications of ichthyol and iodine to the inguinal region, thigh, and leg, and a course of Fowler's solution and later of Donovan's solution. Under this treatment the local and systemic symptoms cleared up, but the embryos still persist in the blood. Continued residence in the temperate zone and the tonic effect of the treatment tried are probably responsible for her improved condition. I do not believe the treatment has had direct effect on the adult worms. I found as many embryos in the blood this year as I did three years ago. The contrast in mental picture between this case and the preceding listless patient of Dr. Bartsch is marked.

² Lyon, M. W., Jr.: Science, May 26, 1916, p. 762.

COMMENT

The source of infection in both cases was undoubtedly the tropics. The possibility of filariasis being spread from cases imported into this latitude must not be lost sight of. Mr. Frederick Knab of the Bureau of Entomology informs me that what is probably the important intermediate host in the spread of *Filaria bancrofti*, the mosquito known as *Culex quinquefasciatus* Say (formerly *Culex fatigans* of authors, also called *Culex pipiens* by Cuban authors and *Culex ciliaris* by Manson) is abundantly found in Washington during the late summer. It seems not unlikely that the summer temperature conditions in this latitude are suited to the development of the embryos into infective forms. That this actually has happened is perhaps shown by Barnes'⁴ Washington case, by Slaughter's⁵ Alexandria, Va., cases and by Dunn's⁶ Philadelphia case. According to Mr. Knab the known range of *Culex quinquefasciatus* is as far north as Washington, D. C., St. Louis, and San Francisco. It has not been recorded in either Baltimore or Philadelphia, but Mr. Knab thinks there are no climatic reasons why it might not be found in those cities.

The possibility of infected mosquitoes being imported with bunches of bananas or other tropical fruits, as suggested by Johnstone⁷ in reporting a possible Chicago case, and thus spreading filariasis beyond its endemic zone, should be considered. Mr. Knab, however, thinks this is a rather unlikely manner of carrying *Culex quinquefasciatus*. On the other hand, he believes there is considerable likelihood of infected female mosquitoes traveling from the tropics in the cabins or elsewhere on ships, and thus infecting individuals outside of the endemic zone. *Culex quinquefasciatus* is a house-inhabit-

⁴ Barnes, N. P.: Month. Cycl. Med. Bull., 1913, **6**, 1; Tr. Am. Therap. Soc. for 1912, 1913, p. 156.

⁵ Slaughter, R. M.: Med. News, 1891, **59**, 649; Practice (Richmond, Va.), 1891, **5**, 329.

⁶ Dunn, Thomas D.: Tr. Coll. Phys., Philadelphia, 1898, Series 3, **20**, 80.

⁷ Johnstone, Mary M. S.: Chicago Med. Recorder, 1903, **25**, 34 62, Woman's Med. Jour., 1904, **14**, 1, 25.

ing mosquito, and might readily be found in the rooms of vessels. There seems to be no reason why they might not also travel in the coaches of passenger trains from an endemic center like Charleston to more northern cities.

SYNOPSIS OF CASES OF FILARIASIS REPORTED IN EASTERN NORTH AMERICA

Glamis (?) Ontario (Hall⁸): Man, aged 58, no history given; hematuria, with coiled embryos, 1/70 inch in length, shape of earthworm, in urine; blood not examined. Owing to absence of blood examination and lack of details this case is somewhat doubtful. The coiled worms may have been *Oxyuris* embryos (compare Stiles⁹), but the size is about right for *Filaria* embryos, and the possibility for *Oxyuris* or of the vinegar eel, *Anguillula aceti* is rather remote in urine from a male.

Toronto, Canada (Primrose¹⁰): Adult man, former inhabitant of Barbados; lymph scrotum; operation, with finding of an adult worm and fragments of others; embryos present in blood before operation; not found afterward.

Montreal, Canada (Armstrong and Mullally¹¹): Girl, colored, aged 14 years; from Antigua, only in Canada a few months; enlarged inguinal glands; embryos in blood; died of streptococcus septicemia eight months after first observation; necropsy; eosinophilia not present.

Boston (Lothrop and Pratt¹²): Man, adult, lived in Barbados seventeen years, then had been in Montreal, New York and South Carolina; away from Barbados four years when coming under observation; embryos in blood; no eosinophilia; swelling in left inguinal glands and in left testicle; testicle removed; nine adult worms recovered; embryos still in blood five months after operation.

Man, adult; younger brother of foregoing patient, with presumably similar history; embryos in blood; no symptoms.

Boston (Cunningham¹³): Man white, aged 35 years, born in Colombia, South America, came to Boston for surgical treatment; blood essentially normal aside from presence of embryos and eosinophilia of 5 to 20 per cent.; enlarged scrotum, tumors in inguinal region; adult worms not found in removed tissues, but following operation no more embryos found in blood.

⁸ Hall, E. A.: Canada Lancet, 1885, 18, 40.

⁹ Stiles, C. Wardell: Am. Med., 1905, 9, 682.

¹⁰ Primrose, A.: Canadian Prac. Rev., 1905, 30, 137.

¹¹ Armstrong, George E., and Mullally, Emmet J.: Surg., Gynec. and Obst., 1914, 19, 699.

¹² Lothrop, Howard A., and Pratt, Joseph H.: Am. Jour. Med. Sc., 1900, 120, 525.

¹³ Cunningham, John H., Jr.: Ann. Surg. 1906, 44, 481.

Boston (O'Neil¹⁴): Man, colored, aged 53, originally from Barbados, had been away three years; no eosinophilia; embryos in blood; chyluria with embryos in urine; right side of scrotum enlarged.

Boston (Phipps¹⁵): Man, aged 20, born in Spain, actor, traveled extensively in tropics including British Guiana, three years ago; embryos in blood; eosinophilia, 6 per cent.; slight swellings in groin and left testicle; salvarsan administered and embryos not found afterward.

New York (Abbe¹⁶; Hackley¹⁷; Draper¹⁸): Man, adult; born at Saint Croix, West Indies; went to Copenhagen at 4½ years, returned to West Indies at 15, remained two years, again went to Copenhagen, developing chyluria on voyage; chyluria cleared up under treatment in Denmark; returned to West Indies and later came to New York, with chyluria still present, embryos in urine; later embryos found in blood. This case first came under observation in 1875 and seems to be the first authentic case recorded in the United States. The blood was not examined for embryos when first seen for although it was three years after Lewis' observation of their occurrence in the blood, it was not commonly known they could be found there.

New York (Gwynn¹⁹): Man, aged 27; native of Saint Croix, West Indies; hematochyluria; embryos in urine; blood apparently not examined.

New York (Lambert²⁰): Man, colored, aged 19; from Saint Croix, West Indies, chyluria; embryos in urine and in blood.

New York (Flint²¹): Man, adult, colored, from St. Kitts, which he had left ten months previous to observation; chyluria, but embryos not mentioned as having been seen in urine; embryos found in blood; is said to have been successfully treated with methylene blue. (Compare Henry's²² Philadelphia case.)

New York (Brown²³): Man, aged 34, born in Germany, had lived in Porto Rico, whence he had removed a few months; embryos accident-

¹⁴ O'Neil, R. F.: Boston Med. and Surg. Jour., 1908, 158, 116.

¹⁵ Phipps, Cadis: Filaria Sanguinis Hominis, The Journal A. M. A., Jan. 22, 1916, p. 266.

¹⁶ Abbe, Robert: New York Med. Jour., 1880, 31, 129.

¹⁷ Hackley, Charles E.: Arch. Med., New York, 1882, 8, 142.

¹⁸ Draper, William H.: Med. Rec., New York, 1882, 22, 213.

¹⁹ Gwynn, C. A.: Helmuth House Report, 1889, 3, 43.

²⁰ Lambert, Samuel W.: Proc. New York Path. Soc. for 1891, 1892, p. 75.

²¹ Flint, Austin: New York Med. Jour., 1895, 61, 737.

²² Henry, Frederick P.: Med. News, 1896, 68, 477; Med. Surg. Reporter, 1896, 74, 775.

²³ Brown, F. Tilden: Proc. New York Path. Soc., N. S., 1903, 3, 39; Med. Surg. Rep. Bellevue and Allied Hosp., New York, 1904, 1, 381.

ally discovered in testicle removed for "tuberculous epididymitis;" embryos not found in blood following operation.

New York (Kaliski²⁴): Man, aged 34, native of West Indies living in New York for about four years; chyluria, with the chylous material coming from the right ureter; urine from this ureter contained embryos; found in blood; eosinophilia, 3 per cent.; 0.6 gm. of salvarsan administered and embryos still found in blood and urine afterward, although urine cleared up for a time. Patient died of miliary tuberculosis; "a partial and unsatisfactory postmortem examination was made."

Brooklyn (Pilcher and Pilcher²⁵): Woman, white, from British Guiana; had been in Brooklyn five years; embryos found in blood; chyluria, with chyle coming from left ureter only; embryos not found in urine; successfully treated with salvarsan, so far as finding embryos in blood was concerned.

Fort Hancock, N. J. (Knox²⁶): Girl, white, aged 7 years; had previously lived in Florida; enlarged inguinal glands; embryos in blood; eosinophilia, from 11.5 to 19 per cent.; urine normal; enlarged glands removed, but it is not stated whether embryos disappeared from blood.

Cleveland, (?) Ohio (Salisbury²⁷): Woman, aged 65; chyluria; urine containing ova and worms, called *Trichina cystica*. This case occurred in 1868, only two years after Wucherer had found embryos in chylous urine, and four before Lewis found embryos in blood. Salisbury's description and figures are poor, and one reading his account is not at all convinced this was a case of filarial chyluria. The presence of ova, although very unusual in filaria infection, is not beyond possibility (Manson²⁸). The case has been considered one of Oxyuris infestation (Stiles⁹). A similar case seems to have been observed by Cobbold²⁹ in a person from South Africa.

Indiana (?) (Wynn³⁰): Woman, white, adult; had never been south; had been east to New York; had also traveled west; chyluria; numerous embryos in urine; died before an intended blood examination was made. Owing to absence of blood examination, lack of detailed description, absence so far as known of mosquito host in Indiana, the positive nature of this apparently indigenous case is somewhat in doubt.

Indiana (?) (Nelson³¹): Man, aged 66, resident of Indiana for preceding thirty years, had at one time been as far south as Florida; chy-

²⁴ Kaiski, David J.: Am. Jour. Urol., 1911, 7, 429.

²⁵ Pilcher, P. M., and Pilcher, J. T.: Med. Rec., New York, 1911, 79, 434.

²⁶ Knox, Howard A.: Mil. Surg., 1911, 28, 659.

²⁷ Salisbury, J. H.: Am. Jour. Med. Sc., N. S., 1868, 55, 371.

²⁸ Manson, Patrick: Tropical Diseases, Ed. 5, 1914, p. 695.

²⁹ Cobbold, T. Spencer: Jour. Linn. Soc. Zool., 1878, 14, 356.

³⁰ Wynn, Frank B.: Indiana Med. Jour., 1896, 14, 409.

³¹ Nelson, J. O.: Med. News, 1899, 74, 280.

luria with embryo in urine; blood apparently not examined. The filarial nature of this case has been denied (Miller³²) and the statement made that the worms seen were vinegar eels.

Anderson (?), Ind. (Austin³³): Man, aged 53, no foreign travel, and for preceding forty years not out of Indiana; diagnosis, ptomain poisoning; urine examination showed hematochyluria; sheathed embryos of filaria in urine; blood apparently not examined; had several repeated attacks. Owing to absence of blood examination, insufficient description of parasite, and absence so far as known of mosquito host in Indiana, the positive nature of this apparently indigenous case is somewhat in doubt.

Chicago, (?) Ill. (Johnstone⁷): Woman, aged 68, born in New York, never south of Missouri; elephantiasis; embryos claimed to have been found in a stained smear; apparently not seen alive. Filarial nature of this case denied (Miller³²).

Philadelphia (Henry²⁶): Woman, adult; born and lived in South Carolina for twenty-seven years; spent twenty-eighth year in Florida; twenty-ninth year in Philadelphia; chyluria, with embryos in urine; embryos in blood; three weeks before coming under observation she had given birth to child; no embryos found in child's blood or in mother's milk; methylene blue treatment tried without effect. (Compare Flint's²¹ New York case.)

Philadelphia (Dunn⁶): Woman, white, aged 19, born in Philadelphia, had once been to Altoona, but never out of state; chyluria, embryos in urine; embryos in blood; accurately described.

Philadelphia (Rivas and Smith³⁴; Smith and Rivas³⁵): Man, aged 20, medical student, native of Porto Rico; lymphangitis, right thigh; embryos in blood; eosinophilia, 19 per cent.

Brother of preceding patient, aged 19 years, no symptoms; eosinophilia, 8.7 per cent., embryos in blood.

Adult man, hospital intern, Porto Rican, transient hematuria; local papilliferous formation in bladder; moderate eosinophilia; a few embryos in blood.

Philadelphia (Rosenberger): Man, aged 31, born in Egypt, traveled through Syria, Germany and France, and for preceding three years had been resident in United States, and thirteen years away from Egypt; milky urine with red cells and lymphocytes, embryos in urine, and in blood; eosinophilia, 15 per cent; salvarsan administered, but patient left United States and observations as to its success lacking, but patient writes that urine is normal. This case was complicated

³² Miller, Joseph L., Chicago Med. Recorder, 1903, 25, 62.

³³ Austin, M. A.: Med. and Surg. Monitor (Indiana), 1902, 5, 342.

³⁴ Rivas, D., and Smith, Allen J.: South. Med. Jour., 1912, 5, 631.

³⁵ Smith, Allen J., and Rivas, Damaso: Am. Jour. Trop. Dis. and Prev. Med., 1914, 2, 367.

with infection with *Schistosomum hematobium*, eggs of this parasite being present in the urine.

Baltimore (Opie³⁶): Man, aged 24, white, from St. Thomas, West Indies, tumor mass in right groin, for eight years previous to death considered a hernia; embryo found in branch of hepatic vein at necropsy; findings at necropsy showed lymphatic varix involving thoracic duct, retroperitoneal lymphatic vessels of abdomen and pelvis, of spermatic cord and right groin; pneumococcus infection of the lymphatic varix.

Baltimore (Lockwood³⁷): Man, aged 19, native of British Guiana, recently in Colon; embryos accidentally found in blood during examination for malaria, of which tropical parasites were present.

Baltimore (Marden³⁸): Medical student at Baltimore Medical College, coming from Porto Rico; no special symptoms aside from malaise and fever at times; embryos in blood; eosinophilia 10.66 per cent.

Washington, D. C. (Barnes⁴): Woman, colored, aged 38, never further south than Culpeper, Va.; marked elephantiasis; embryos said to have been found in blood; became pregnant and embryos claimed to have been found in milk, in umbilical cord, in blood of child up to 4 weeks of age, also reported in mother's feces and in meconium. Mother treated with dioxydiamidoarsenobenzol; elephantiasis much improved and no more embryos found in blood. As embryos were so readily found in such unusual places as feces, meconium, child's blood and milk, one must be pardoned for expressing some doubt as to their having been seen in this case; artefacts are easily mistaken for them.

Washington, D. C.: The two imported cases described above.

Alexandria, Va. (Slaughter⁵): Woman, aged 65; not reported as having been out of state; chylohematuria; embryos in urine; blood not examined; later developed alveolar abscess above upper incisors and embryos found in pus from it. A published photomicrograph does not entirely resemble an embryo, being too thick, short and straight.

Woman, aged 45, born at Fredericksburg, Va.; apparently never traveled out of state; chyluria with embryos in urine; blood not examined.

St. Louis (Grindon³⁹): Woman, aged 51 years, a native of Guadeloupe, West Indies, coming direct to St. Louis one year previous; occasional attacks of lymphangitis and swelling of left inguinal glands, most severe attack in St. Louis; also had lymph varices on left arm; embryos found in blood.

³⁶ Opie, Eugene L.: Am. Jour. Med. Sc., N. S., 1901, 122, 251.

³⁷ Lockwood, W. F.: Maryland Med. Jour., 1903, 66, 367.

³⁸ Marden, T. B.: Hosp. Bull. Baltimore Med. Coll. News, 1913, 9, 60; Maryland Med. Jour., 1915, 58, 1.

³⁹ Grindon, Joseph: Jour. Missouri State Med. Assn., 1908, 5, 129.

Charleston, S. C. (Guiteras,⁴⁰ Mastin,⁴¹ Thompson,⁴² Osler,⁴³ Saussure⁴⁴): Twenty-two cases between 1886 and 1890; 9 colored males, 5 white males, 6 colored females, 2 white females. One of these had been born in Africa and came to United States as a slave; the others were born in South Carolina for most part, or elsewhere in temperate zone; embryos were found in blood of all. In 20 of them infection had certainly occurred in the United States, principally in Charleston. Chyluria or hematochyluria in 15 cases, enlarged scrotum in 1; chylocele of scrotum in 2; no symptoms or at most rather vague abdominal pains and general lack of well-being, 4 cases. One patient became pregnant, but embryos were not found in cord, in milk, or in blood of child.

Charleston, S. C. (Johnson⁴⁵): Seventy-seven cases in a systematic routine blood examination of patients in Roper Hospital. Nine showed chyluria; 3, elephantiasis; 2, lymphscrotum; 1, hydrocele; 1, phlebectasis; the others had ailments so far as known not directly referable to filaria infection. The cases embraced 14 white females, 9 white males, 29 colored females, 25 colored males. Youngest age at which embryos were found, 6 years. Highest eosinophilia, 9.5 per cent. An infant of 4 days, whose mother harbored embryos, showed no embryos in its blood. The number of embryos found varied with patients and time blood was taken, from 2,114 to 3 per cubic centimeter at 11 p.m., and 1,479 to none per cubic centimeter at 11 a.m. This and the preceding series of twenty-two cases leave no doubt as to the endemicity of filariasis in Charleston. Dr. Johnson also shows that the incidence of cases is higher in the city than in the surrounding country, a fact well correlated with the house-loving habits of the intermediate host, *Culex quinquefasciatus*.

Mobile, Ala. (Mastin⁴¹): Man, aged 22, Irish parentage, born in Mobile and never traveled out of that city; embryos found in fluid from tapping an enlarged testicle; inguinal glands moderately enlarged and in chains; embryos not found in blood.

Key West, Fla. (Guiteras⁴⁰): Four cases occurring in Cubans living at Key West; no details given. Guiteras at that time thought the parasite well established on the island of Key West.

Florida (Andrade⁴⁶): Man, aged 34, born in South Carolina, lived in Florida many years; chyluria; embryos in urine and in blood.

⁴⁰ Guiteras, John: Med. News, 1886, 48, 399.

⁴¹ Mastin, William M.: Ann. Surg., 1888, 8, 321; Am. Med. Weekly, 2, 617.

⁴² Thompson, J. L.: Tr. South Carolina Med. Assn., 1888, p. 141.

⁴³ Osler, William: Johns Hopkins Hosp. Bull., 1890, 1, 48.

⁴⁴ De Saussure, P. G.: Med. News, 1890, 56, 704.

⁴⁵ Johnson, F. B.: South. Med. Jour., July, 1915, 8, 630.

⁴⁶ Andrade, E.: Am. Jour. Med. Sc., N. S., 1905, 130, 126; same case, Georgia Practician, 1906, 3, 10.

New Orleans (Matas⁴⁷): Man, aged 19, native of Cuba, came to New Orleans nine months before observation, enlargement of right testicle, embryos in aspirated fluid, embryos in blood; operation; not stated if embryos disappeared following this.

SUMMARY

Two imported cases of infection with *Filaria bancrofti* are reported for the District of Columbia.

Including these, 142 cases have been reported in eastern North America, 7 of which are doubtful records. One hundred and four acquired their infection in the United States; 28, in the West Indies or in South America; 1, in Egypt; 2, unknown but probably in the United States.

Distributed by sex and race, the 135 positive cases show: white males, 25, colored males, 38; males, race not stated or inferable, 12; total males, 75; white females, 21; colored females, 37; females, race not stated or inferable, 2; total females, 60; total white, 46; total colored, 75; race not stated or inferable, 14. The somewhat greater frequency of infection in males is probably associated with their seeking medical advice for involvement of the scrotum. The rather marked frequency of infection in the colored over the white is probably associated with the fact that in the large Charleston series the colored patients come from a class more apt to be bitten by mosquitoes. Excluding the Charleston cases the figures are: white males, 11; colored males, 4; males, race unknown, 12; white females, 5; colored females, 2; females, race unknown, 2; total males, 27; total females, 9; total white, 16; colored, 6; race not stated, 14. The ages of the patients varied from 6 years to old age.

Pathologically the cases show: no or almost no symptoms directly referable to the parasite or suffering from other affections, 72 cases, that is, about 50 per cent.; chyluria or hematochyluria, 36 cases; elephantiasis of the legs, 3; scrotal enlargement of various kinds, 13; inguinal enlargements, 11. Of the cases with chyluria, two showed that the chylous urine was passed by a single ureter, in one the right, the other, the

⁴⁷ Matas, Rudolph: New Orleans Med. and Surg. Jour., 1891, 18, 501.

left. This may have been the case with many of the others, as probably only a few were cystoscopically examined. In one case with inguinal enlargement, the mistaken diagnosis of hernia was made, and in one with scrotal involvement a supposed tuberculous testicle was removed. A moderate eosinophilia (from 10 to 15 per cent.) was present in most of the cases, but was entirely absent in some.

In those patients who became pregnant and had children, the embryos were not found in the child's blood, or in the mother's milk (Henry's²² Philadelphia case; Saussure's⁴⁴ and Johnson's⁴⁵ Charleston cases. Compare, however, Barnes'⁴ Washington case).

Geographically the eastern North America cases are distributed from Canada to New Orleans and Key West, and from Boston to St. Louis. There is a large endemic center in Charleston, and probably elsewhere in the South. Indigenous cases are found along the Atlantic seaboard as far north as Philadelphia, but most cases north of Charleston are imported ones.

Culex quinquefasciatus, the mosquito which serves as the intermediate host for *Filaria bancrofti*, ranges as far north as Washington and St. Louis and perhaps farther. It is a house and city mosquito.

Adult worms remain living in their human host and give forth embryos for at least five years (Brooklyn and Washington cases), and probably thirteen years (Rosenberger's Philadelphia case).

The diagnosis is easily made by examining for living embryos in drops of fresh blood obtained at night, or by the Rivas-Smith method of placing a cubic centimeter of blood, day or night, in dilute acetic acid solution and examining the centrifuged sediment. The number of embryos found varies from one to over 2,000 per cubic centimeter, depending on the time of day or night examined and probably the number of parent worms.

Surgical interference, where the parent worms are accessible has usually been successful when employed.

Medicinal treatment is unsatisfactory. In some of the foregoing cases salvarsan has apparently given good results. Branch⁴⁸ speaks highly of it in the West Indies; Cottle,⁴⁹ in the Pacific, thinks it ineffective.

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⁴⁸ Branch, Edmund R.: Jour. Med. and Hyg., 1913, **16**, 364.

⁴⁹ Cottle, George F.: U. S. Naval Bull., 1912, **6**, 84.

THE NON-OPERATIVE TREATMENT OF CONGENITAL EQUINO-VARUS*

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Talipes, or club foot, is an abnormal and permanent deviation of the foot in the direction of extension or flexion, adduction or abduction, according to the type of deformity, whether equino-varus or calcaneo-valgus. Equino-varus comprises about eighty per cent of the cases, and calcaneo-valgus the remaining twenty per cent. The former being of much more frequent occurrence, I have taken that for the subject to be discussed.

Talipes may be either congenital or acquired, and according to the opinions of the various observers, the etiological factors in the production of the congenital type are abnormal intra-uterine pressure, faulty position in utero, defective development of the bones of the foot or lower leg, and to some nerve lesion, for example spina bifida. It is often bilateral, may be hereditary, and is usually not associated with the wasting trophic changes and the impaired electrical reactions observed in the acquired type, or paralytic form, which is another subject, and will not be considered here.

What is the general prognosis of this type of deformity, and upon what factors does the prognosis depend? With our greater experience and further study it may safely be said that the prognosis is improving. Physicians are learning that early treatment is essential for success, and that no time should be lost in instituting corrective measures. There is no greater mistake than waiting for the so-called ideal operative stage.

While the rigidity of the foot is not always in direct proportion to the age, yet this is usually the case. In the early weeks of life the bones are soft, cartilaginous, and plastic, the soft

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parts are easily stretched and the earlier correction is obtained the sooner will the reshaping and readjustment take place. During the first year the growth of the foot is most rapid, and of this advantage should be taken. As time goes on, all the tissues become firmer and more permanently adapted to their positions, whether right or wrong. Bones once calcified in a deformed position are difficult to reshape; ligaments once shortened are always hard to stretch, and muscles which have become adapted to incorrect length and position are not easily activated.

If, moreover correction is obtained in the first year, subsequent walking will become a further corrective rather than a deforming agent. Neither the age of the patient nor the rigidity of the foot are controllable in every case, but the method of treatment and the persistency with which it is carried out are all important, and can be controlled.

The following method is not advocated for the type of foot that has been neglected until there is actual bony obstruction to the correction, and for which bone resection is the only hope for a return to approximate form, but there is no possibility of the return of the function of the foot. Such a foot is a constant source of trouble to the patient especially as the weight of the body increases, thus adding additional strain to the foot.

The question of the treatment of congenital equino-varus naturally brings up the consideration as to what method will give the patient the best result.

In any deformity the restoration of form is very important, but also the function of the part is more important, especially when we consider the rather complicated mechanism of the human foot.

A typical case presents the following characteristics in varying degree. There is a deformity of the foot in three planes, the foot being held in plantar flexion, adduction and inversion. The deformity is entered into by all the structures of the foot; the structures on the outer side being lengthened, those on the inner side being short and tight, the tendo achilles is shortened, and the plantar fascia is contracted. There is a relative dislocation of the tarsal bones, one upon another posteriorly,

which in time produces changes in the articular facets, which becomes permanent after calcification has taken place. The os calcis is tilted and inverted, and the cuboid is very low and, if the child has been walking, there is a callous at this point. The older the foot the more rigid the structures become, and the problem of correction becomes more difficult.

There is also another phase of the anatomical change which must be considered, and that is the inherent tendency of the foot to relapse, and this becomes more marked with the age of the child.

For these reasons it is urged that treatment should begin as soon as the child is born or the first week after birth.

In a study of a group of cases there is noticed that there are two fairly distinct types of cases, first the early and flexible feet which have immediate and persistent treatment, and the older and more rigid feet, which have either been improperly treated or neglected. At the present time there are two methods of treatment, each having their adherents, while there are still others who advocate a combination of the two methods. These are the radical, or operative, and the non-operative, conservative or manipulative.

A comparison of the end results of these two types of treatment was made recently by Fiske of Boston at the Childrens Hospital, and a summary of his figures proves very interesting.

Of 105 cases with equino-varus, 60 being double, there were 165 deformed feet, each foot being considered a case for the purposes of comparison. The results of this group, which covered a period of five years, showed 37 feet with excellent result, 79 with good, 42 with fair, and 7 with poor results. A comparison of the methods used to obtain these results showed that where the operative method was applied the results were evenly divided between satisfactory and unsatisfactory, while the non-operative cases were practically all in the satisfactory groups. Of this comparison the criticism may be made that the majority of the cases given operative treatment were at all times worse than those treated without operation, or in other words, that the prognosis of the former was never so good as the latter. To meet such criticism, all the cases

from the operative group, which at admission corresponded in age and type of foot to any admissions in the non-operative group, were selected and compared with the latter group of cases.

So it would seem that the results of both kinds of treatment in the hands of different groups of men show a greater proportion of good results from the conservative method.

Why is there any reason to believe that operation in these early cases does not give a good prognosis?

Any method of treatment must accomplish the full correction, or better, the full overcorrection, of the deformity, and perfect retention of the overcorrected structures until they have become adapted to the new position, resume their form as well as their function, and so maintain themselves without any artificial aid.

In the operated cases above reported, one-third, or $33\frac{1}{3}$ per cent, a second operation had to be performed, and there are cases without number where as many as five or six operations had been done, and even then the results were far from satisfactory. In one half of the operated cases there were relapses, and the elements of relapse are two, failure to obtain sufficient correction, and failure to retain the correction which has been obtained. Insufficient correction leaves the foot with short and contracted ligaments, deformed and elastic bone, and lack of muscle balance.

Now the operative method can be used to cut whatever structures resist correction, and what seems to be a perfect foot is the result, but all of the factors productive of relapse have not been removed, and the potentials for the return of the deformity are still present.

The deformity is entered into by all of the various structures of the foot, so it can be seen that no treatment which is not directed to all these factors can be successful.

Aside from these objections, which in themselves are enough, there must be considered the usual risks of anaesthesia, sepsis and the possible mortality of bone operations. Operation is productive of scar tissue and ankylosis, it impairs muscle power and equilibrium, interferes with growth and development, and often increases the deformity.

When some of the more destructive operations on the soft parts are done there is the formation of large amounts of scar tissue which has an inherent contractility, and this can easily be the factor to produce a relapse, and these scars mat up the tissues and interfere with the mechanical efficiency of the tendons of the foot and leg. A tenotomized muscle contracts, and its future power and contractility is interfered with, and when the gastrocnemius tendon is cut there is sometimes a large deformity of the calf resulting. The removal of bone shortens the leg and destroys the function of the metatarsal joints in the immediate vicinity, thus producing a more rigid and inelastic foot. The development of the foot is impaired by the division of nerves and blood vessels and the future muscle balance of the foot is now much below normal. Tenotomy also removes a valuable fulcrum by which the articular facets are reshaped.

By means of the manipulative method the gradual reshaping of the soft parts and the bones alike can be procured without danger to the patient or to the structures of the foot, without interference with the circulation, innervation, muscle power or balance, and with complete restoration of the normal form and function.

The treatment is begun as soon as the patient is seen, when there are the advantages of the recumbency of the patient, which prevents weight bearing on a deformed foot, natural growth and the soft tissues and bones are amenable to correction.

Thus by holding the foot in the overcorrected position the tarsal bones readapt themselves to the new position according to Wolff's law, which holds that structures such as bones and soft parts alter their intrinsic structure and internal architecture to new conditions of form and function.

Taking the theory that in order to correct any deformity we must reverse the process by which it was produced, the first step in the correction is to overcome the varus. Varus is a term that should be defined in order to make clear the aim of the treatment. A combination of adduction and inversion produce varus, thus the adduction is the first element which

we must correct, then the inversion, and lastly the equinus. This is accomplished by the aid of careful manipulation of the fore foot up to the point of producing pain, and then applying a plaster which is very snug to retain the amount of correction obtained. These plasters are changed every two weeks, and usually the adduction is overcome in from two to three plasters. Next the inversion of the foot must be treated in much the same way, except the plaster is applied in two sections, one a boot which includes the fore foot and grips the os calcis, thus giving a much greater control of the whole foot, and a second portion which may be described as a plaster legging extending from about an inch above the malleoli up to and including the thigh, with the knee flexed at an angle of about ninety degrees. When the foot has been corrected as much as possible the two sections of the plaster are joined together by a third plaster. When full overcorrection of the adduction and the inversion have been accomplished the tendo-achilles is stretched out in the same manner, at the same time maintaining the abduction and eversion. The whole process can usually be accomplished in about three months. This overcorrection is maintained during the day by the use of a well fitting brace and shoe, and during the night by well fitting split plaster. Also active massage of the atrophied muscles, and when the child is old enough, active muscle training, particularly to the overstretched peronei group so that active overcorrection and muscle balance are established. In this way the foot is perfectly prepared for weight bearing when the child reaches the walking age, and the body weight is a valuable adjunct to the successful maintenance of the correction.

If the child has reached the walking age before complete correction has been obtained we use a walking type of plaster with a pad under the cuboid, so that each step the child takes causes the body weight to act as a corrective agency in forcing up the cuboid and so overcoming the inversion.

The success of the above outlined treatment was so complete and satisfactory in the early untreated cases which were evidently favorable that the attempt was made recently to

apply these same principles to some of the more rigid and older cases with a less favorable prognosis.

All cases which came to the Orthopedic Clinic at the Massachusetts General Hospital of this nature were photographed and studied, except those cases which offered actual bony rigid deformity and offered little hope of success by the manipulative method. Many of these cases had had multiple tenotomies and no after treatment, so that relapse was inevitable. The very nature of the operative treatment seems to produce overconfidence in the result and consequent neglect of the very important after treatment.

This series of selected cases responded to the manipulative method in a way that was most gratifying, and in every case that continued treatment a good result was procured, although the time of treatment was somewhat longer, as they were more rigid as a whole.

One case will serve as an example, which had been operated upon three times at the ages of six, eight and twelve months. The age of the child on admission to the clinic was six years, and presented a severely relapsed foot, which could not be passively approximated to the straight line; the cuboid was low, the os calcis was inverted, and weight bearing was upon the dorsum of the foot over the upper aspect of the cuboid. In three months time this case was put into the brace and the foot was held in active overcorrection by the peronei muscles.

During the entire course of these cases there were no infections, no skin abrasions and no sloughs. After each plaster was applied the toes were examined to see that the circulation was established. Very little discomfort was complained of, and at no time was there any pain, after the first night the child was usually in perfectly normal health and spirits.

For the purpose of recording the improvement in the three elements of deformity at each visit, a very ingenious instrument devised by Dr. Fiske was used, known as the talipedometer, which registered in degrees on three movable arcs the improvement in the deformity. Thus it was known at all times exactly the condition of the foot, thereby eliminating any guesswork as to probable improvement. Any tendency

to relapse of any of the elements of the deformity could thus be checked up and corrected even before they were evident to the eye.

In regard to the technique of the plaster it might be interesting to state that no padding is used except in the case of very young infants with a tender skin, when a very thin layer of cotton wadding is used. A knitted stockingette is used, which fits the foot and leg exactly and to better secure fixation for the plaster the stockingette is glued to the skin with Heusner's glue. Then the plaster is applied directly over the stockingette, care being used to avoid ridges or irregularities. The best grade of dental plaster is used with crinoline two and one half inches wide. Before the foot is abducted in the use of the walking type of plaster the boot is cut out under the external malleolus to prevent impingement at that point.

Cotton wadding when used soon mats down and the efficiency of the cast is thereby greatly lessened, as a loose plaster allows too much motion of the foot, and a certain amount of correction is lost.

During the period between full overcorrection and the beginning of walking the foot can be massaged and held in position by the use of adhesive and elastic straps such as are recommended by Bartow.

If any tendency to relapse evidences itself at any period of observation, a plaster is applied again until there is no further evidence of relapse.

The brace used is an inside upright with an equinous stop and calf band and T ankle strap to hold the foot over to the brace. The heel and sole of the shoe are raised on the outside from three-sixteenths to one-quarter of an inch. This brace allows full active motion of the foot in walking and holds the foot in active overcorrection.

In summing up the following conclusions can be drawn:

1. Prognosis depends upon the age and the rigidity of the foot and most important, the method and persistency of the treatment.
2. Perfect overcorrection of all the elements of the deformity and constant attention to maintaining the position of

the foot until the structures have become permanently readjusted.

3. The restoration of the function is equally as important as the restoration of the form, and should be considered in choosing any form of treatment.

4. Any treatment which is not directed to the whole foot, or is local in its application, is not productive of the best results.

5. Early and prompt treatment is necessary to obtain the greatest advantage in the growth and development of the foot at the most favorable time when the structures are the most plastic.

6. The manipulative treatment has every advantage over the operative method in the proportion of functional and anatomic results, the percentage being fifty per cent in favor of the non-operative.

7. Even in the older and operated cases with relapse the results are surprisingly good except where there is actual bony deformity.

8. The technique of the plaster treatment does not contain any elements which are dangerous to the patient, and are to be recommended for their simplicity of application and uniformly excellent results.

9. Providing the case is systematically observed at frequent intervals for a sufficiently long period there is practically no danger of relapse or unsatisfactory results.

10. Complete overcorrection before the weight bearing age gives an additional factor in the maintenance of the new position.

DETERMINATION OF SEX*

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Many hypotheses have been advanced since ancient times concerning the determination of sex and the factors and environments which were supposed to have influence thereon. Interest in this subject has not been manifested by the biologist alone, but by the laity as well, especially where great inheritances were at stake, and many futile and ludicrous efforts have been made to influence the sex of the offspring.

Alcmaeon (580 B. C.), is believed to have first laid down the fact that fertilization in animals and plants consisted in the material union of the several products of both sexes, but this was not established experimentally until 1761, when Kolreuter did his pioneer work on the hybridization of plants. Indeed, although the spermatozoon was first seen in 1677 by Ludwig Hammen, a pupil of Leeuwenhoek, with the aid of the primitive microscope, it was not interpreted by Leeuwenhoek as a sexual element, he being under the influence of the then current preformationist idea, thought these actively motile bodies to be preformed organisms (parasites), and described them as anamaliculae, spermatia or spermatozoa. Even throughout the 18th century, the general tendency was to regard them as parasites and of no consequence in fertilization.

In 1780 Spallanzani artificially fertilized frog's eggs and successfully introduced seminal fluid into the uterus of a bitch, but came to the erroneous conclusion that it was the fluid medium and not the spermatozoa that caused the fertilization. This error was not corrected until 1824 when Prevost and Dumas showed that fertilization was not obtained when the seminal fluid had been filtered. In 1837 Wagner established that spermatozoa were present in all sexually mature males

* Read January 20, 1917.

and absent in infertile male hybrids, and in 1841 Kolliker showed that these cells were proliferated in the testis. In 1843 Barry observed the spermatozoon in the ovum of a rabbit in 1849 Leuchart observed fertilization of the frog's egg, in 1851 Nelson saw the entrance of the spermatozoon into the egg of ascris and at last in 1854 Bisehoff and Thompson finally and definitely established the fact that ova were fertilized by the actual entrance of the spermatozoa.

Among the older theories concerning the causation of sex, is that of Hippocrates, who believed that boys came from the right ovary and girls from the left, which belief was supported by Galen, and even in 1786, Henke advocated coition on the corresponding side when a child of that sex was desired. Many believed that impregnation before menstruation produced females and afterwards males were the result. Cannastrini believed that sex was determined by the number of spermatozoa entering an ovum; Hansen believed that females were produced when the spermatozoa and ovum were most active; Hockfer and Sadlin were of the opinion that the older the male parent, the more male were produced, while other investigations have attempted to arrive at conclusions from the comparative vigor of the parents. A very popular belief in the breeding of domestic animals is that the sex of the offspring tends to that of the least vigorous parent. On the other hand Wiel believes that superabundant nourishment of the mother results in the preponderance of females, and in the case of famine, war, and disease, males predominate. Besides these theories there are many others some of which are vivid and highly superstitious, that have been advanced from time to time, which while interesting, are far too numerous to be cited here.

Hypotheses on this subject may be classed as progamous, syngamous or epigamous, depending upon whether the determination of sex occurs in the ovum itself before impregnation, at the time of impregnation, or by external influences, all of which have failed to stand the test of proof, with the exception of the sex chromosome theory which has been proven to be a fact for the lower forms of life.

In the light of our modern histologic data and the ever increasing exactitude of up to date investigators, using modern cytologic methods, there has been accumulated striking facts as to the existance of different kinds of sex cells, the differences pertaining chiefly to the nuclear and chromatic manifestations exhibited in oögenesis and spermatogenesis, but particularly with reference to the spermatozoon, concerning which, our knowledge is more exact. These cells have been conclusively shown to be of two kinds, according to chromatic structure, differentiation depending upon whether or not they contain an accessory or sex chromosome. This peculiarity in chromatic structure has been observed in the male sexual cells of many insects, fishes, amphibia, some mammals and even man. Among the most accessible tissues, which are easy of demonstration, are the active testis of the common grasshopper, which I shall use in attempting to illustrate this subject.

Before entering into a discussion of the male element, I do not think that it would be amiss to make a brief résumé of the development and structure of the ovum.

The ovary of a four months foetus may be taken as showing typical oögenesis. The substance of this sex gland consists of a richly cellular and vascularized connective tissue, the stroma, upon the surface of which is located a row of low columnar epithelial cells—the germinal epithelium or oögonia. From time to time masses of these cells invaginate the stroma, forming Pflueger's tubes or sex cords, and active ordinary mitosis may be demonstrated in the cells. Finally the cords break up, many of the cells atrophy and disappear, some increase in size, become surrounded by a delicate capsule of smaller epitheloid cells and these constitutes the primitive ova with the earliest vestige of their Graffin follicles. These follicles show but little growth until puberty, at which time they exhibit considerable activity and ripen in regular and quick succession.

The proliferating oögonia have been shown to contain a definite number of chromosomes in their nuclei (24 in most mammals, man, and the grasshopper to be described), which

number is characteristic for the female individual of the species. This number of chromosomes in the female element exceeds that of the male (spermatozoon, 23), by one, but both agree in having distinguishable chromosomes, which have been called the sex chromosomes which however, represent an odd member in the male.

When the follicle is ripe and the ovum prepares for fertilization, the chromatic mass of its nucleus instead of segmenting into the usual number of chromosomes characteristic of the oögonia, break up into but half that number. The cell then passes through metakinesis twice in rapid succession, in which process it extrudes three quarters of its total amount of chromatin content, but the number of chromatic threads remaining, are one half of the somatic number characteristic for the species (24). This modified cell is now ready for the reception of the spermatozoon, and is said to be in the female pronuclear stage, or matured.

The origin of the spermatozoa in the mammal may be traced to the large cells occupying the basalar layer in the seminiferous tubules of the testis (differing in others), known as the spermatogonia. In the active testis, these cells may be seen to exhibit ordinary mitosis, each daughter cell receiving the full or diploid number of chromosomes, which in the male is one less than the female (23). The odd or accessory chromosome is not very readily distinguished in these primitive cells, all chromosomes in them dividing alike in a similar manner to that of the somatic cells.

After several generations, some spermatogonia undergo a period of growth, becoming the primary spermatocytes, during which time the chromatin becomes concentrated and with the formation of the spirem and subsequent segmentation, the chromosomes are haploid or only one half the original number, plus a large and easily distinguishable accessory chromosome ($11 + 1 = 12$), this reduction having been brought about by a fusion or synapsis of the paired elements, the odd member remaining separate and increasing in size.

Then these chromosomes split equally in metakinesis (with exception of the X), the splitting, however, being somewhat

peculiar in that it gives rise to tetrad formation, and one-half of these tetrads (dyads) migrate toward their respective poles of the cell. The sex chromosome undergoes no change, but remains intact and migrates to one pole. With the division of the cell body, two daughter cells are produced, which become known as the secondary spermatocytes. These cells receive an equal number of the paired elements (dyads), but one has an extra element in the form of the sex chromosome.

The secondary spermatocytes next divide; the one without the accessory chromosome, splitting into two cells—spermatids—containing one half the somatic number of chromosomes less the accessory chromosome; and the spermatocyte containing the accessory chromosome, giving rise to two spermatids with one half the somatic number of chromosomes plus an accessory chromosome in each, the sex chromosome having divided into two parts during the metaphase of the spermatocyte.

The spermatids then develop directly into the spermatozoa without further cleavage. Thus we have developed from the original spermatogonium, four spermatozoa, all containing one half the original number of chromosomes; two with an accessory chromosome (12) and two without an accessory chromosome (11), these cells now being fully mature are said to be in the male pronuclear stage.

Now, it has been conclusively demonstrated, especially in the lower forms of life, that if a mature ovum be impregnated by a spermatozoon, containing the accessory chromosome, a female is the result. If fecundation be accomplished by a spermatozoon without an accessory chromosome, a male is produced; the presence or absence of the accessory chromosome thereby determining the nature of the sex produced.

While the sex of the offspring is determined syngamously with the entrance of the spermatozoon into the ovum, it is many times desired by the biologist to know definitely the sex nature. This may be determined immediately after impregnation before the fusion of the chromatin of the male and female pronuclei, by demonstrating, the absence (male) or presence (female) of the sex chromosome in the segmented chromatin of the male pronucleus.

After fusion of the male and female elements (pronuclei) within the ovum and the beginning of cleavage, progressing toward the formation of the morula, the sex can be determined only by cytologic examination of the somatic cells, which in male, would contain 23 chromosomes and in female 24, or other figures in the same proportion, characteristic of the species which may be under consideration.

When the embryo has attained a sufficient age to exhibit histologic differentiations in the genital ridge and sex glands, the determination of its sex may be made by histologic study of these organs. In the human these differentiations do not appear earlier than the latter part of the fourth or beginning of the fifth week of embryonic life.

Sex differentiation from examination of the external genitals in human embryos may not be made until the 11th week or in embryos approximately 70 mm in length.

Strictly speaking, therefore, from a cytologic point of view, from the time of fertilization of the ovum to the time of the development of the primary and secondary sexual characters of the foetus, the embryo is never in the indifferent stage, described by many authors.

CONCLUSIONS

1. Environmental and other such factors have nothing to do with sex determination, except as incidents.
2. While the fertilization of the human ovum has never been observed, it is logical to conclude from the data at hand, that sex is determined at the time of fertilization, by the presence (female) or absence (male) of the sex chromosome in the impregnating spermatozoon.
3. The embryo goes through no true indifferent stage; its sex is at all times determined.

[ABSTRACT]*

LANGE'S COLLOIDAL GOLD REACTION IN ANTERIOR POLIOMYELITIS†

BY K. F. MAXEY, M.D.

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In the presence of an epidemic of acute anterior poliomyelitis the public in general and the family in particular demand to know whether a suspected child really has this disease or not.

It is now appreciated that the examination of the cerebrospinal fluid is of great aid in giving a definite answer to this important question.

It is largely due to knowledge gained by this means that acute anterior poliomyelitis is now classed with the acute specific infectious diseases of childhood, the tendency to involvement of the central nervous system with the resulting paralysis is now shown to be a frequent but inconstant feature of the disease. Cases showing no nervous symptoms have hitherto been unrecognized, but now by the aid of laboratory study of the cerebrospinal fluid they are less frequently overlooked and are properly classified, and treated.

Pathologically, in the acute stage there are definite evidences of reaction of the body tissues to a systemic poison, cloudy swelling of the parenchyma of the different organs, and hyperplasia of the lymphoid elements. The rather characteristic changes in the central nervous system are round cell infiltration and hyperemia of the pia, while the perivascular spaces in the cord are filled with lymphocytes. There are also edema, hemorrhage, and degenerations in the substance of the cord medulla and pons with destruction of anterior horn cells.

† Read February 17, 1917.

* Abstracted from article published in Journal American Medical Association.

These pathological findings should lead us to expect marked changes in the spinal fluid, but despite the great amount of work done since Heine studied the disease in 1840 it was reserved for American clinical pathologists to demonstrate its great value in diagnosis.

In the acute stage the spinal fluid shows certain constant changes if the central nervous system is involved, but the findings may be negative if the spinal puncture is done either too early or too late that is before the nervous system has become involved or, after a slight reaction has cleared up.

The findings in general are; the fluid is clear or with a high cell count has a hazy ground glass appearance. The cell count is from 25 or 30 to 200 rarely as high as 3000. In the early stage polymorpho nuclear leukocytes predominate, later small mononuclear leukocytes are more abundant. There is an increase in the globulin as shown by the Lange colloidal gold reaction.

The constitutional symptoms of the disease, in the absence of paralytic symptoms, are rarely sufficiently distinctive to differentiate it from other infections, such as gastrointestinal disturbances with fever or an ordinary "grippe." Difficulty is especially encountered in the "masked" or "abortive" forms as well as in the pre-non- or postparalytic stages. It is in such cases that a study of the cerebrospinal fluid by means of the cell count and the globulin reaction, when combined with a carefully taken history, and a thorough physical examination will enable us to make a diagnosis with an assurance which otherwise would not be possible.

A CASE OF POST PARTUM ECLAMPSIA*

BY TRUMAN ABBE, A.B., M.D.

Professor of Roentgenology and Clinical Instructor in Surgery

The comparative infrequency of post partum convulsions leads us to offer the following case for consideration. Mrs. O., a white woman, twenty-five years of age, consulted me towards the end of her first pregnancy. She had had excessive nausea in the early months but none at present. The routine examination of pelvis, heart, urine, and blood pressure were all normal. Repeated examinations of urine showed: no albumen or casts, a sufficient quantity, and a specific gravity always over 1,010. The blood pressure never varied five points from 120 mm. In due time she went through a normal labor and sixteen hours after the first pains was delivered naturally of her fine son. During labor she was given one-fourth grain of morphine and during the last few minutes a little ether, scarcely enough to produce unconsciousness as the head came over the perineum. There was a scant rather than an excessive loss of blood. As we had been keeping in mind the early nausea we now congratulated ourselves that the grave dangers were past.

Two hours later after the patient had been returned to her bed and left to sleep, she had a convulsion lasting some three minutes in which she bit her tongue severely. This was followed by a stupor from which she was just rousing when we saw her some ten minutes later. She revived sufficiently to complain of an intense headache and darkness in front of her eyes. Then while we were preparing some solution for a hot rectal irrigation she had a second convulsion followed by stupor and a third within a half hour from the time of the first. Her blood pressure at this time was 140 mm. Without further delay we took eighteen ounces of blood from her arm and got prompt improvement in her mental condition. Consciousness

* Read October 21, 1916.

returned, the headache decreased and there were no more convulsions. The blood pressure dropped about five millimeters with the venesection but did not go below 134 mm. We gave her water by Murphy drip, and large quantities of liquids by mouth. The next day the blood pressure was 140 mm., but there were no other evidences of toxemia. The urine showed a slight quantity of albumen but no casts.

The blood pressure remained between 135 and 140 mm. until the fourth day when it dropped to 120 mm. at the same time that the milk secretion appeared in the breasts. Otherwise the recovery was uneventful.

This case is interesting not only because of the occurrence of convulsions post partum but also because antepartum there were none of the expected forewarnings of eclampsia, except the hyperemesis of the early months. There was no chloroform given to add to the liver degeneration and only one dose of morphine which would of course tend to decrease elimination.

It is interesting in connection with the fall of blood pressure at the time of the appearance of secretion from the breasts to mention the suggested amputation of the breasts for eclampsia and also the treatment of eclampsia in cows by the injection of the udders with oxygen. I know of no other observation on the relation of the symptoms of toxemia to milk excretion, but we all appreciate full well that certain poisons are excreted in the milk as is evidenced by the tired mother giving milk that causes colic in her nursling. Menstruation seems also to add deleterious products to the mother's milk. It would seem that further observations on blood pressure continued for five days after delivery would be instructive on this point. Blood pressure examinations immediately following delivery might suggest the postpartum eclampsias and help us to anticipate them, by the administration of water and sodium bicarbonate by mouth.

BI-LATERAL OVARIAN DERMOID CYST*

BY ALBERT E. PAGAN, M.D.

Associate in Gynaecology and Obstetrics

History. Colored, age 22, single, young looking, weight 110 pounds, domestic. Seen April 10, 1916. Family history unimportant. Past history and habits unimportant. Urine report, negative. Leukocyte count, 8,000. Hemoglobin, 80 per cent, temperature, 98.6, pulse, 96.

Menses established at fifteen, recurring every two to five weeks, accompanied by severe abdominal pain which is constant during flow and at times very severe, mostly in the lower left quadrant. Flow lasts four to five days, patient denies leucorrhea and ever having been pregnant. Last menses March 30, 1916.

Examination shows thin flat abdomen, no masses on palpation, seems moderately sensitive to deep palpation in right side of pelvis. Genitals normal, small, not inflamed, no discharge apparent, outlet small; vagina short. Cervix firm, conical low in pelvis point in axis of vagina, motion limited and slightly painful. Uterus seems slightly large, firm, retro-displaced and fixed. A mass slightly larger than a hen's egg seems to be closely fixed to the posterior wall of the uterus. It is hard, irregular and not sensitive to firm palpation.

The appendages were not outlined. Examination by rectum permitted the mass to be closely outlined as an irregular, hard, non-sensitive mass adherent to the cul-de-sac and seeming to be closely attached to and originating from the uterus.

Diagnosis, fibroid tumor; operation advised.

June 28, complaint same. Examination same, except that on this occasion a hard globular mass the size of a lemon was palpated in the lower left quadrant and it was tender. It seemed to be attached to the uterus and broad ligament.

Diagnosis, fibroid and probable cystic ovary; again advised operation.

* Read October 21, 1916.

September 27, has had a severe attack of indigestion since July 1, menses have recurred every fourteen days; lasting five to fourteen days; profuse and very painful especially in the lower left quadrant. Last menses September 1 and 20.

September 27, operation.

Temperature, 98.6; pulse, 80. Leucocyte count, 10,000. Urine normal.

Laparotomy revealed left ovary about the size of a lemon, hanging free in the abdomen by a pedicle about 3 inches long. The right ovary and tube were inflamed and firmly adherent in the cul-de-sac and to the small intestine and omentum. A super-vaginal pan-hysterectomy and an appendectomy were performed. Recovery uneventful.

On examination the specimens proved to be double ovarian dermoids, exhibiting macroscopically hair, skin, and several hard yellowish white irregular masses which simulated teeth in appearance. The hair was black but not kinky.

"Dermoids are tumors furnished with skin and occurring in situations where this structure is not found under normal conditions."

The simplest forms of dermoids consist of a globular sac or cyst the inner wall of which is lined with stratified epithelium, furnished with hair and sebaceous glands and often sweat glands. The hair and secretions from the glands slowly fill the sac and distend it.

At times we find bone, horn, nails, nipples, teeth, or fat in them.

These tumors occur most often in the ovary and are said to form about 4 per cent of all ovarian tumors.

About 50 per cent occur on the right side, 35 per cent on the left and about 15 per cent bilateral; 2 per cent are said to develop into a malignant form of neoplasm.

HYDROCEPHALUS, SPINA BIFIDA, AND DOUBLE TALIPES CALCANEUS OCCURRING IN THE SAME FETUS*

BY COURSEN BAXTER CONKLIN, B.S., M.D.†

Associate in Medicine, Associate Physician, University Hospital

This case is reported on account of the relative rareness of these three deformities occurring concomitantly in the same fetus and especially on account of the extreme degree of the spinal defect, which a glance at the accompanying radiograph will demonstrate. Abnormalities, such as here presented, afford an opportunity for interesting speculation as to the embryological factors involved.

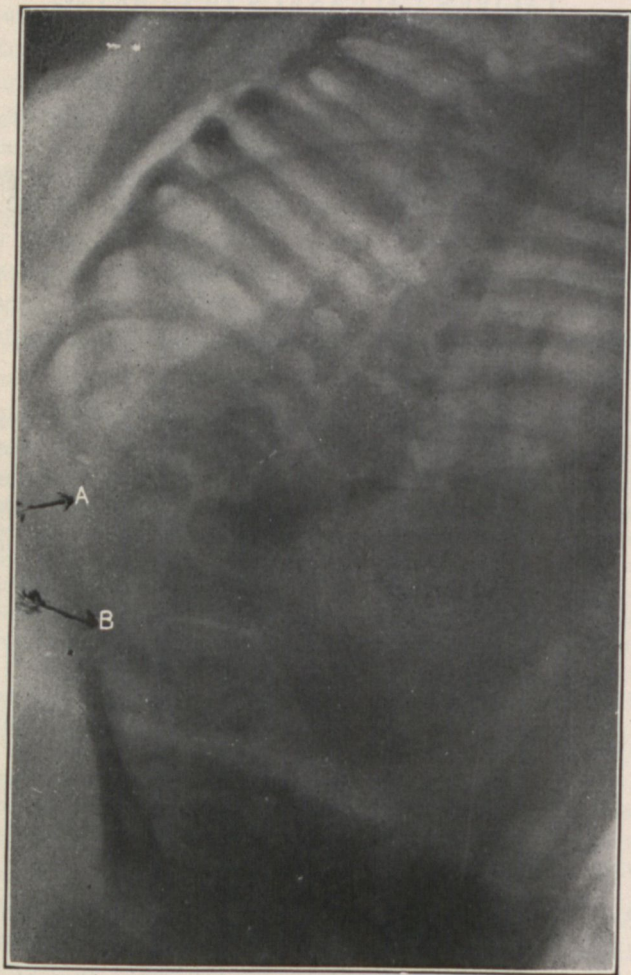
Case. The mother, F. L., age twenty-one years, white, primipara, gives history of no other illness besides malaria; has never had any symptoms suggestive of lues or tuberculosis; during pregnancy was in good health, suffering no fall or other injury; in July had pains which lasted all day, her physician was called and she was told that she was in labor; in August there was a repetition of the same kind of pains which again lasted throughout the day, at neither time, however, was there any hemorrhage. The father, D. L., age twenty-seven years, white, apparently in good health, denies ever having had any venereal disease.

The fetus, male, stillborn September 7, 1916, size of a full term child, occipital frontal circumference of head 52 cm., occipital mental circumference 46 cm., vertex coccygeal length 32 cm.; over lower lumbar region typical swelling of spina bifida; feet in position of talipes calcaneus. The accompanying radiogram shows very well the total absence of the neural arch in the lumbar region of the cord with a kyphotic bowing of the vertebral column.

As to the incidence of these three abnormalities occurring in the same fetus, I was able to find one case report in a survey of the literature extending back for ten years, that of Davidson's (1). His case is of interest in that an attempt is made to establish a causal connection between the mother's falling

* Read December 16, 1916.

† Reprinted from the New York Medical Journal, May 19, 1917.



Radiogram of fetus showing A, kyphotic bowing of vertebral column, and B, absence of neural arch.

downstairs during the fourth month of pregnancy and the occurrence of the deformities. There are numerous case reports, however, of the occurrence of two of the malformations. Bruce's case (2) of hydrocephalus and spina bifida is of interest in that the child with such gross defects lived to be six years old. The frequency of the occurrence of one of these abnormalities is given as follows: E. S. Gushee, in the study of 91,600 deliveries at the New York Lying-In Hospital finds hydrocephalus in the ratio of about one in 1,000. J. B. Bryant says that spina bifida with tumor occurs about once in eight hundred deliveries. Talipes calcaneus occurred in the Hospital for Ruptured and Crippled, New York City, forty-seven times in 2,103 cases of congenital club foot or, as will be seen, in 2.2 per cent of the cases (3).

Concerning the etiological factors involved in the production of these malformations much has been written. There is undoubtedly a cause and effect relation between the three deformities exhibited in this case. N. Sharp (4) states that the majority if not all of the cases of spina bifida are caused by pressure of an excessive secretion of spinal fluid. The excessive secretion in hydrocephalus of course is well known. This statement of Sharp's seems plausible reasoning *a posteriori*, but I do not think that other errors in embryological development can be neglected as contributing causes in certain cases of spinal defect. Joseph Barnet (5) points out times when accidents are most likely to occur in the osseous development of the spine. He well says that "from the time that the differentiation of sclerotomatous cells begins, any pathological factor may operate to produce any degree of defect." The normal formation of the neural arch enclosing the medullary tube takes place by the growing lateroposteriorly of processes of sclerotomatous tissue from the primitive vertebræ. These processes, known as the vertebral bows, are destined to meet dorsally to form a closed membranous canal, which is chondrified at the fourth month. In the case here presented it is probable that an active "pathological factor" exerted its influence as early as the second month, causing an absolute inhibition of the growth of the vertebral bows in the lumbar

region of the spine. The neuropathology resulting from the gross osseous defect of the neural canal makes talipes a sequence to spina bifida. The feet continue to maintain their intrauterine position. Very often in association with spina bifida there is even complete paralysis of the lower extremities.

CONCLUSIONS

These three conditions are probably associated more frequently than my review of the literature will admit, as they are linked together on a cause and effect basis.

The extreme degree of defect shown in the radiogram is worthy of note owing to the rareness of such an occurrence.

My thanks are due to Dr. L. K. Beatty, obstetrician to the Casualty Hospital, this city, for affording me the opportunity of studying this case and also to Dr. John H. Selby for his kindness in making radiograms.

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REPORT OF A CASE OF HYPERNEPHROMA*

BY CHARLES STANLEY WHITE, M.D., F.A.C.S.

Associate Professor of Surgery

Hypernephromata is the name given by Grawitz to those tumors arising from the adrenals or adrenal rests, but the same term is often applied to a growth of renal. Tumors of the kidney are classified with difficulty and the present tendency seems to be to divide them into two groups, those arising from proliferation of islets of renal blastema and those which have their beginning in adrenal tissue, with consequently, an unidentical histology. The term mesothelioma is used as a substitute or compromise; over seventy per cent of kidney tumors are of this nature and interest us from their mixed histology, malignant and metastatic properties and obscure genesis.

The diagnosis of these tumors is important and difficult, as the early recognition and appropriate surgical measures offer the only hope of cure, the mortality of the unoperated cases being 100 per cent. The diagnosis is based on a palpable tumor, cystoscopic examination and pyleography. Hematuria is an import and fairly constant symptom, although in about twenty per cent of the cases the urinalysis is negative. It is often the first symptom which directs attention to the kidney.

The case we wish to report is that of a female, between twenty-five and thirty years of age, with a negative family history. She had always enjoyed good health and was employed daily as a clerk for the past few years. She had been aware of a mass or enlargement between the left costal margin and the crest of the ileum just as long as she could remember, but it was not the source of pain or annoyance. During the past few months its enlargement had been rapid and quite noticeable, not preceded by trauma of any nature. She was admitted to the George Washington Hospital September 11, 1916, where an examination revealed a tumor about the size

* Read January 20, 1917.

of a grape fruit below the left costal margin, movable but not floating, smooth and resilient in character and painless upon pressure. The pelvic organs appeared normal upon a vaginal examination and not connected firmly with the tumor. The urine was not pathological. No diagnosis was made prior to operation.

Two days after admission, a long left rectus incision was made and disclosed a retro-peritoneal tumor, other contents of the abdomen being normal. The tumor was not firmly fixed but was attached to the posterior abdominal wall and it was quite evident that we were dealing with a tumor of the kidney. The right kidney was normal so far as palpation could determine. While contrary to the general surgical procedure we decided to approach this growth by the transperitoneal route, and forthwith made a transverse incision in the abdominal wall beginning at the center of the rectus incision. An opening was made in the posterior peritoneum. Without great difficulty the vessels and ureter were ligated separately, the kidney removed, the opening in the peritoneum sutured and the abdomen closed in the usual manner, without drainage. She made a rapid and tranquil recovery.

The report of Doctor Hunter is as follows:

Hypernephroma with secondary changes.

This tumor occupies nearly the entire kidney structure, the upper and lower poles with an irregularly distorted pelvis, alone remaining. The longest diameter of the tumor is 12 cm. in the direction of the cortex of the kidney, the shortest, 10 cm. from pole to pole. It is surrounded by the capsule of the kidney which is under considerable tension, markedly thickened and containing many tortuous blood-vessels. The tumor itself appears not to have any definite capsule of its own. The surface as a whole is smooth, the few elevations present, being discreet and of an undulating character.

Upon gross section, the tumor mass cut with no resistance, being quite soft and pulpy in character, with many areas of hemorrhage and necrosis. The most striking feature is the irregular mottled appearance produced by a greater mass of whitish, irregular, lobulated growth containing many large and small areas and streaks of dark brown hemorrhagic extravasations, some of which are relatively hard and firm; others, soft and necrotic; all being interwoven by strands and bands of tissue of a golden yellowish color.

Microscopic sections show areas containing masses of large, clear, irregular or polygonal epitheloid cells, with well defined nuclei and a relatively large amount of cytoplasm, which is studded with clear droplets and fine, highly glistening granules. Some of these cells have a tendency to be arranged in rows or columns; others in irregularly oval masses, producing indefinite, adenomatous or alveolar formations, all being supported by a delicate reticulum and richly supplied with capillaries, resembling strongly the zona glomerulosa and zona fasciculata of the adrenal gland.

In connection with these are seen also, many other broad and irregular masses of cells, which exhibit changes in character of growth resembling a true sarcoma. These latter cells are smaller in size, round or oval in shape, the nuclei relatively large and richer in chromatin, with scanty cytoplasm which stains darker with eosin, supported by a very delicate intercellular stroma, with many young embryonic blood-vessels, some with well defined endothelial walls and others in which define endothelial walls cannot be demonstrated—simple channels which seem to be lined by the darker type of cells—sarcomatous.

In addition, there are many areas of hemorrhage, necrosis, hyaline and granular degeneration of the tumor cells, infiltration of pus cells and endothelial leucocytes which exhibit pronounced phagocytosis of cellular detritus.

We wish to note especially the frequency of this type of tumor of the kidney, the mesothelioma, and to hope for a better and more satisfactory histo-pathology; to call attention to the importance of the urinalysis, cystoscopy and the x-ray in the diagnosis and the early operation. The trans-peritoneal route was employed with the greatest satisfaction, contrary to the authoritative statement that it is attended with an appalling mortality, and has no place in surgery.

DOUBLE PULMONARY EMBOLISM COMPLICATING PHLEBITIS*

By B. M. RANDOLPH, M.D.

Professor of Materia Medica and Therapeutics

Case of a white male, aged 54 years. Previous history excellent, the patient having always been remarkably free from illness of every kind. During the winter of 1916 he had a mild attack of so-called grippe, and in the active period of this infection he had occasional premature systoles of the heart. This symptom disappeared with recovery. During the summer of 1916 he had slight dyspepsia, with gas formation in stomach.

In September 1916 he went to Atlantic City for a vacation. September 27; while bathing in surf, some object came into contact with his legs, causing him to kick out violently under the water. On coming out of the water, and afterward he had pain in the calf of the leg, but continued to walk on it. During the night the pain increased and the leg swelled. It was treated with liniments, but as it got worse rather than better, he returned home. The journey was accomplished with great pain and difficulty on account of this disability.

I saw him first October 2, the fifth day from the injury. The left calf was symmetrically swollen, glazed, and exquisitely tender. Temperature was normal. The diagnosis made was muscle rupture with deep seated hemorrhage. The muscles were splinted with adhesive plaster, and the limb put at absolute rest. Relief began at once, and in a week the limb had regained its normal size and appearance, and the tenderness had entirely disappeared. He now began to move about on crutches, without putting the foot to the ground. October 11, he went to his office, remaining several hours, and apparently stood it well. The next morning, on awakening with a headache, and seeming to have a slight cold in his head, he

* Read January 20, 1917.

took 6 grains of quinine, and later 5 grains of aspirin. About 10 a.m. he again set out for his office, in a cab. When he had gone only a few blocks, he was suddenly seized with a severe attack of cardiac weakness, associated with severe dyspnoea, but no pain. He was immediately brought home, where he arrived ghastly pale, weak, and with oppression of breathing. He was put to bed, and reacted promptly, this period being associated with marked polyuria. I saw him three hours after this occurrence. The pulse was 104, but increased to 120 on slight exertion (turning in bed). Systolic blood pressure 118, diastolic 72. There was a soft systolic murmur over the ventricular area, having its maximum intensity over the tip of the sternum, and transmitted over the liver. It faded away in the direction of the apex. No alterations in outline of the heart were discovered. There were occasional premature systoles, and the second pulmonic sound was moderately accentuated. Treatment calomel, rest in bed followed by digitalis in moderate dosage. The cardiac syndrome cleared up in a few days, and did not recur. I was unable at the time to assign the proper cause of this attack, and supposed that it was due to some unascertained weakness of the cardiac muscle, resulting in dilatation of the right ventricle. The subsequent history of the case seems to make it certain that we were dealing with an embolism of a branch of the right coronary artery.

On October 21, as he was beginning to sit up (not yet having borne any weight on the injured member), he began to have pain in the calf of the left leg. At first it resembled the state in which I first saw it, but the pain and swelling progressed upward, advancing to the groin, and developed a typical picture of thrombo-phlebitis. It was not accompanied by fever. It was treated by rest, elevation, and hot fomentations, and later by the application of a plaster case. In dealing with this feature of the disease, I had the valuable advice and assistance of Dr. John R. Wellington.

The phlebitis seemed to be progressing favorably, when on October 31, the patient had a rather abrupt onset of pain in the right side of the chest, most severe in the lower segment

of the thorax, and referred upward to the shoulder. It was accompanied by oppression of breathing, and a temperature of 101.8°F. The pain steadily increased in severity. Physical examination showed on the involved side restriction of respiratory excursion, with diminished resonance and suppressed breathing in the lower segment. Over the upper lobe breathing was exaggerated. In two days these diffuse signs diminished and were replaced by those arising from an area localised on the postero-lateral surface of the lower lobe, consisting in dullness, friction, moist râles, with bronchial voice and whisper. The area was almost perfectly circular in shape, and about the size of the projection of a tennis ball. A painful cough began early, and on the third day began to produce bloody expectoration. The pain was persistent and severe. There was continued fever ranging from 100° to 102°. Leucocytes fluctuated between 12,000 and 15,000. Urine was at all times normal. The diagnosis of pulmonary infarction was readily made. After the fifth day there began a gradual subsidence of temperature and symptoms. On November 9, the patient began to have severe pain on the opposite side of the chest and oppressed breathing. To avoid repetition it may be said that this marked the onset of a precisely similar infarction of the opposite lung, which ran the same course both as to symptoms and physical findings. The location of this infarct was exactly symmetrical to the first, both as to location and extent, indicating that the same branch of the pulmonary artery on the two sides was the victim of embolism. The same exacerbation of pain, temperature, cough and bloody expectoration took place, with the difference that improvement was slower.

November 19, the patient began to have pain along the afferent vessel of the right leg, and it was feared that the thrombosis had extended by way of the abdominal vessels to the opposite side. As the pain was confined to the lower portion of the leg and thigh, and as there was no diffuse swelling, and as it readily cleared up under the application of dry heat, it was regarded as being situated outside the vein. It should be mentioned that he had previously had a weak arch in this

foot, and believes that he strained it at the time of the original injury.

Later, December 12, he developed a sciatica in this limb, which ran a mild course. It was attributed to the constrained position which he was compelled to maintain for so long a time. The temperature became permanently normal December 8, and after the subsidence of the sciatica, convalescence was established, and has progressed steadily till the present time.

Summary of treatment. That of the injury, cardiac attack and phlebitis has already been related. For the infarction the chest was immobilised with adhesive plaster and hot water bags applied. Small doses of iodide were given after the first infarct to facilitate expectoration, and to aid absorption. This was discontinued when the second infarct occurred, as it was thought possible that it might have predisposed to the detachment of the second embolus. It was necessary to give a dose of morphine every night for two weeks to procure the required amount of sleep. The constrained position incident to the immobilisation of the leg produced great restlessness and muscular twitching, which greatly interfered with sleep, and produced considerable subjective nervous reaction. After the pain had sufficiently disappeared, sleep was procured by trional. As soon as the patient could assume natural and varied positions in bed, hypnotics and anodynes were cut off. It took several days before he began again to sleep normally.

The pain in the right leg was treated with marked success by the application of dry heat, and the same treatment was sufficient for the sciatica when the patient began to sit up with the feet down, a flannel bandage was all required to control the swelling.

The only residue now persisting of the infarcts is slightly diminished resonance, weakened breath sounds, with increased voice and whisper transmission and fremitus over the involved areas.

SYPHILITIC ULCER OF THE STOMACH WITH RESECTION*

BY HARRY HYLAND KERR, M.D., C.M. -

Clinical Professor of Surgery

During the past year several articles on syphilis of the stomach have appeared. Cullen of Hot Springs, Arkansas reported a case with operation for hour glass contracture of a supposed syphilitic ulcer of the stomach, though the specimen showed no ulcer. Niles of Atlanta and Lull of Birmingham report one and three cases respectively, without operation. These, with the majority of the cases previously reported were diagnosed on indirect evidence (Smithies, 26 cases, Downs and LeWald, 8 cases, Morgan, 7 cases.)

Symmers in a study of 314 syphilitic cases out of 4,880 autopsies at the Bellevue Hospital, New York, says:

In the Bellvue Hospital series, gastric ulcer of indubitable syphilitic origin occurred once only. The patient was a white man aged 32 who died from profuse hematemesis. Necropsy revealed the coarsely lobulated liver of syphilis, together with multiple gumma of the liver and of the mesenteric, pancreatic and perigastric lymph glands, syphilitic aortitis and extensive ulcerative lesions of the stomach, presenting the characteristic histologic features of syphilis, endarteritis obliterans and circumvascular plasma and round celled infiltration.

Pappenheimer and Woodruff who studied the lesion, were able to find but twelve other acceptable examples of syphilitic gastric ulcer in the literature. My own experience in the histologic examination of gastric ulcers removed at necropsy and operation has not included a single other example of syphilis and unless the diagnosis of gastric syphilis is confirmed by microscopic examination I should not be inclined to accept it.

Case. H. T. Aged 28; male; colored; single. Admitted to Providence Hospital complaining of vomiting.

F. H. Mother died of malaria. Father died from operation for adhesions of intestines. Five brothers and two sisters living and well. One brother dead, cause unknown.

* Read March 17, 1917.

P. H. Good health until lately. Typhoid at 10. Malaria at 20. Gonorrhea at 17. No other diseases. Has had tonsilitis for the past five winters. Stomach trouble began in December, 1914, with pain following meals (fifteen to thirty minutes) with some belching of gas and tenderness in the epigastrium. Water and fluids relieved pain. Food made it worse. Bowels have been sluggish—no jaundice.

Was operated on in May, 1916. A right rectus incision was used and his appendix was removed. No relief. Began vomiting again before discharge from the hospital. The pain and vomiting kept up as before operation. Pain was first localized in the epigastrium, now goes to the back and between the shoulders, does not radiate downwards. Vomits after each meal but feels alright till the next meal. Sweets especially disagree.

Physical examination: Thin, anemic, looks tired and weak. Head negative. Mouth; marked stomatitis, tongue coated with whitish fur except for a clear spot at the tip. Tonsils fair. No cervical glands. Both epitrochlear glands palpable. Lungs and heart negative.

Abdomen. Old rectus scar about 4 inches long and opposite umbilicus. Abdomen scaphoid type, little subcutaneous fat. Spastic colon felt on left side. No tenderness on left. Some induration of scar. Tenderness over McBurney's point. No rigidity. Marked resistance over the right hypochondrium with tenderness in this region. Some tenderness in the epigastrium. Back negative. Reflexes normal.

Urine negative.

Test meal showed retention with mucus and deficiency of hydrochloric acid.

Diagnosis: Ulcer of the stomach. Wasserman not taken.

Operation, July 14, 1916.

The pyloric region of the stomach showed a marked induration. There were no adhesions but the peritoneum over the indurated area showed the characteristic "stippling" seen over cancer. There were none of the usual evidences of chronic ulcer; i.e., the pale star-like scar with glistening peritoneum.

Being uncertain of the exact pathology in so young a subject, a gastrotomy was performed, exposing a large irregular ulcer with undermined edges, but lacking the induration of the edges seen in chronic ulcer. The induration seemed to involve the base and neighboring tissues.

Although the patient's age seemed to preclude the diagnosis of cancer, the gross pathology was so unlike chronic ulcer, as I have seen it, that a partial gastrectomy was decided upon. There were some enlarged lymphatic glands in the lesser omentum.

Payr's crushing stomach clamps were applied across the stomach at about the junction of the middle and distal thirds and across the duodenum. The involved tissue was resected. A direct anastomosis between the ends of the stomach and duodenum was performed by the Basting Stitch technique without any hemorrhage or exposure of the mucous membrane.

On examining the specimen after operation, three large ulcers were found. Two of them were about the size of a silver dollar and the third the size of a quarter. The ulcers were shallow with irregular outline and slightly undermined edges. Only the mucous and submucous coats seemed to be involved in the ulcerative process, the base being of a dirty yellowish grey color. The bases and surrounding tissues were thickened and infiltrated but the actual edges of the ulcers were not involved in the induration. From the appearance of the multiple ulcers a diagnosis of syphilis was suggested and a Wassermann reaction was ordered.

The patient reacted well and took fluids for the first forty-eight hours. Then vomiting developed and on the fourth day it was evident that occlusion had taken place at the sight of anastomosis. The abdomen was opened under local anesthesia and the stomach invaginated into the stoma, re-establishing its patency.

Convalescence was again established till the tenth day when occlusion recurred. The wound was again opened under local anesthesia and an anterior gastro-enterostomy done. The patient's condition had grown desperate and no attempt was made to explore the sight of the anastomosis.

By this time the blood for the Wassermann had been taken but no report had been received. Feeling that an active pathologic process was responsible for these repeated occlusions, intra-muscular injections of mercury were started at once. A few days later the report from the Wassermann came back triple plus and salvarsan was ordered.

From that time on recovery was uninterrupted. The patient reports himself in perfect health, having gained 60 pounds in weight.

A REPORT OF A CASE OF LIVER ABSCESS*

By COURSEN B. CONKLIN, B.S., M.D.

*Associate in Medicine, Associate Physician to the University
Hospital*

WITH NECROPSY REPORT

By MARCUS W. LYON, JR., M.D., Ph.D.

*Professor of Bacteriology and Pathology, The George Washington
University*

History: W. H., age 46; married; nativity United States; occupation baker.

Family history unimportant.

Previous personal history: Has since reaching manhood indulged excessively in alcoholics, consuming as much as a pint of whiskey daily; never travelled out of the United States until in the fall of 1916 when he shipped as a cook on a cattle ship bound for Greece; three days were spent in the Grecian harbor, the crew not being allowed to land; thence the boat went to northern Africa to coal; here four days were spent without going ashore; thence returned home.

Present illness: Early in January while on the street was suddenly seized with a sharp pain in his right side which when indicated corresponded to his right hypochondrium; refused to go to bed until three days afterward; fever, chills, sweats and diarrhoea followed; meanwhile pain and tenderness remained in right side. Temperature always stayed above normal and seemed to correspond to the remittent type; on the fourteenth of February had six fluid stools; emaciation was rapid; a persistent non productive cough prevailed; the physician in attendance received from the laboratory a report of a partially positive Widal; the treatment had consisted of rest, liquid diet, quinine and astringents for bowels.

Physical examination: The fifteenth of February at the end of six weeks of illness.

Height about 5 feet, 7 inches.

Weight about 120 pounds.

Dorsal decubitus, general appearance of great prostration, facial expression apathetic.

Respiratory system: Some impairment of resonance over right base posteriorly, with distant voice sounds.

* Read April 21, 1917.

Circulatory system: Muscular element of first heart sound deficient, rate about 110, rhythm good, no murmurs.

Digestive system: Teeth poorly cared for, tongue coated centrally, examination of abdomen revealed tenderness over region of liver, edge felt three finger breadths below costal margin in the midclavicular line, relative liver dulness in the third interspace midclavicular line; spleen not palpable; no tenderness or rigidity over MacBurney's; no excessive gas in right lower quadrant, nor any great amount of distension.

Mentally sluggish, acted very much like a man under the influence of an opiate.

Entered George Washington University Hospital on the night of February 15th, Dr. Ruffin's service; subsequent observations:

February 16, 1917, four fluid stools, still complaining of pain.

February 17, 1917, urinalysis: Cloudy amber, 1030, neutral, faint trace of albumen, heavy deposit of amorphous phosphates. Blood shows:

Erythrocytes.....	3,064,000
Haemoglobin.....	60 per cent
Leukocytes.....	16,600
Differential:	
Polymorphonuclears.....	55 per cent
Small lymphocytes.....	16 per cent
Large lymphocytes.....	20 per cent
Eosinophiles.....	5 per cent
Large mononuclears.....	1 per cent
Transitionals.....	2 per cent
Basophiles.....	1 per cent

Widal reaction was negative, cold stool showed no parasites.

February 19, 1917, still complains of pain, seven fluid stools, interne especially instructed to send warm stool to the laboratory; a noticeable jaundice had developed.

February 20, 1917, emetine hydrochloride gr. ss ordered morning and night; six small fluid stools.

February 23, 1917, jaundice intense, patient appears moribund, limitation of diaphragmatic movements on right side quite evident; death.

DISCUSSION

This patient was first seen by me in consultation with Dr. H. W. Jaegar on February 15, at which time patient had been ill for six weeks. His general appearance at that time was that of a man seriously ill. The trip to the Mediterranean, the diarrhoea, the emaciation, the remittent temperature,

pain in region of liver and the sweating caused me to suggest to Dr. Jaegar the probability of liver abscess. The desirability of further laboratory work was evident to both of us. Of course the history of enlarged liver, continuous fever, coated tongue and mental hebetude would suggest typhoid fever, but the absence of Widal, enlarged spleen, rose spots and borborygmi with right lower quadrant tenderness would controvert this conclusion. Rapid emaciation, cough, with some indefinite respiratory evidence might argue for pulmonary tuberculosis; a sputum examination in any event was deemed desirable. Another disease suggests itself and that is malaria. The absence of enlarged spleen and positive blood findings would prevent this conclusion. The blood examination made a strong link in the chain of evidence for liver abscess. Dr. Leonard Rogers in his sterling book on dysenteries says that he has noticed that a leukocytosis without a relative increase in the polymorphonuclears points to liver abscess; also he makes it plain that it is the ratio of leukocytes to the erythrocytes rather than the actual counts which lends weight. He cites a case which showed the white cells to be 8000, in ratio with the reds 1-332. In this proportion with a normal red cell count, the leukocytes would have been 16,000. Again quoting from this authority, "In a postmortem examination of 63 cases of liver abscess 90.4 per cent were proven to be amoebic; in another series 97.7 per cent were amoebic." From this it is seen that the amoeba is responsible for most liver abscesses. Recovery of amoebae from the stool in cases with hepatic involvement strongly suggests liver abscess. This was attempted in this case but the briefness of the time for observation together with too much reliance probably being placed in the interne's enthusiasm prevented the gaining of this conclusive evidence, ante-mortem. The moribund condition of the patient stamped him immediately as being beyond surgical aid. A word of caution might be added concerning the puncture of the liver for diagnostic purposes. Rogers, Fagge and other writers cite numerous cases of death following this procedure, fatal haemorrhage occurring either into the liver, the abscess cavity or the peritoneal cavity. A

laparotomy with manual examination of the liver by the surgeon is probably the best way of confirming the diagnosis in the presence of conflicting evidence. It is only necessary to quote Manson's statistics to show how often liver abscess is allowed to go on to rupture and to give an idea of the routes taken by the burrowing pus.

Rupture into the pericardium, 1	0.03	per cent of series
Rupture into the pleura, 31.....	5.5	per cent of series
Rupture into peritoneum, 39.....	69.0	per cent of series
Rupture into lung, 59.....	10.0	per cent of series
Rupture into colon, 6.....	1.0	per cent of series
Rupture into stomach and duodenum, 8.....	1.4	per cent of series
Rupture into bile duct, 4.....	1.7	per cent of series
Rupture into vena cava, 3.....	1.5	per cent of series
Rupture into kidney, 2	1.3	per cent of series
Rupture into lumbo iliac, 6.....	1.0	per cent of series

Malaria is often confused with liver abscess, one writer stating that it is rare that he sees a case that has not been saturated with quinine by a well meaning practitioner.

With our country on the verge of sending men to the firing line in Europe, liver abscess will take a renewed interest with our medical corps owing to the inevitable contamination resulting from the mingling of our men with those from beyond the Mediterranean.

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2. LEONARD ROGERS, Dysenteries.
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PARTIAL NECROPSY REPORT*

Body. Middle-aged white male, estimated height and weight, 5 feet, 6 inches, 130 pounds. Pupils moderately dilated. Rigor mortis present. Large elliptical scar (burn) on upper outer aspect of thigh. Small scar over right side of pelvis. Considerable degree of post mortem lividity on

* By M. W. Lyon, Jr.

back. Slight inflammation over each knee. Skin and conjunctivae, slightly jaundiced.

Heart and pericardium. Nothing of note except atheromatous patches on ascending arch of aorta.

Lungs and pleura. At base of right lung the parietal layer of the pleura was firmly adherent to diaphragm.

Peritoneum. Smooth and glistening; chronic adhesions were found between ascending and descending colons and abdominal walls; contained a slight excess of yellowish turbid fluid which on culturing showed the streptococcus.

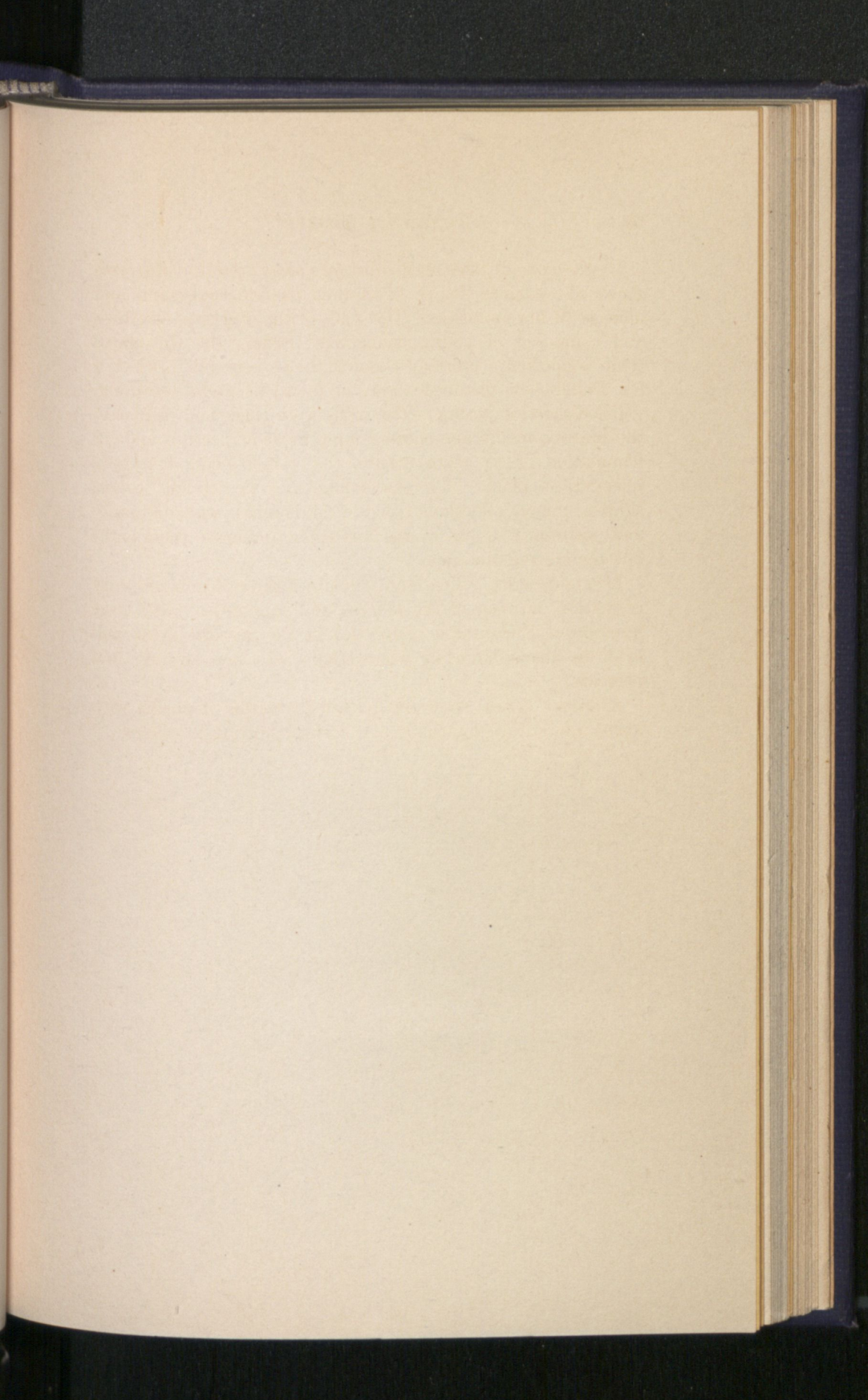
Liver. Somewhat enlarged, extending higher than usual on right side, and its lower border somewhat lower than usual. In the right lobe were two large abscesses, and another smaller one. The first of these abscesses was in the lateroanterior aspect of the lobe, measuring 145 cm. in length, superoinferiorly; 65 in breadth, anteroposteriorly; and extended into the liver substance to a depth of about 50 mm.; the free surface of the liver was eroded by this abscess and its margins were adherent to the abdominal wall and the diaphragm; evidently the adhesions binding it to these structures were leaking and this would account for the turbidity of the fluid in the abdominal cavity; the same kind of streptococcus being found in the peritoneum as in the abscess. There was no active peritonitis, suggesting by this that the leaking was post mortem. The contents of the abscess was a thick, creamy, yellow fluid, with a greenish tinge. The second abscess was in the left and upper portion of the right lobe; subglobular in shape with a lateral diameter of 95 mm. and anteroposterior and superoinferior dimensions of about 75 mm. This abscess was still contained within the liver substance, the capsule of the liver being much thickened to retain it on the exposed surface. The contents of this abscess was like the first. The third abscess was on the posterior aspect of the right lobe, 50 mm. in from the outer margin and 25 mm. from the lower border. It measured about 30 mm. in diameter and was about 15 mm. deep; like the second abscess it had not ruptured and its posterior wall was made from the thickened capsule of the liver.

Microscopically the liver substance away from the abscesses shows a moderate degree of chronic passive congestion and increase of fibrous tissue. The walls of the abscesses are thick and composed of young connective tissue cells. In places there is marked necrosis of tissue in the abscess wall in which a few *Endamoeba histolytica* may be found on careful searching.

Colon macroscopically. The walls were thickened in places; the mucous membrane showed large areas of necrosis and inflammation of an acute nature, the vessels being markedly injected in places. The ascending and descending colons showed many adhesions to the abdominal wall, laterally and posteriorly so that it was impossible to remove them without puncturing the gut.

Microscopically. The large intestines showed inflammatory ulceration, necrosis of the mucosa and submucosa, with large numbers of *Endamoeba histolytica* in the necrotic areas and even in the submucosa where there was not any distinct necrosis.

Kidneys. These showed subacute glomerular nephritis with acute interstitial changes in the cortical portion in places.



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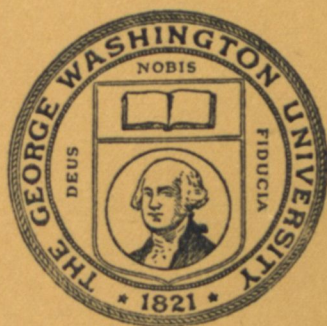
VOLUME XVI

NUMBER 3

George Washington University Bulletin

REPORT OF THE TREASURER

1916-1917



PUBLISHED BY THE UNIVERSITY
WASHINGTON, D. C.



George Washington University Bulletin

REPORT OF THE TREASURER for the year ended August 31, 1917

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October, 1917

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Bulletin

REPORT OF THE TREASURER
for the year ended August 31, 1917

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October, 1917

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WASHINGTON, D. C.

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Report of the Treasurer

October 10, 1917.

THE BOARD OF TRUSTEES OF GEORGE WASHINGTON UNIVERSITY:

GENTLEMEN: I have the honor to submit herewith a report showing in detail the financial operations of the University for the fiscal year ended August 31, 1917, and exhibiting the condition of Trust Funds as required by the By-Laws of the University, Article XI, Section 1, certified by The American Audit Company of New York.

Trust Funds were received during the year as follows: Alumni Professorship Fund, \$32.80; Law School Fund, \$4,897.33; Jacques Law Fund, \$178.39; Jacques Medical Fund, \$178.39; Law School Building Fund, \$5,127.47; General Building Fund, \$12.15; Fifty Thousand Dollar Building and Grounds Fund, \$3,271.00; Mechanical Engineering Laboratory Fund, \$275.00; Total, \$13,972.53. Payments from Trust Funds were made as follows: From the Fifty Thousand Dollar Building Fund, applied on the mortgage on 2023 G Street, \$3,171.00; from the Mayer Hospital Fund, in payment for attorney's fee, \$400.00. The Trust Funds total \$492,023.51, a net increase of \$10,401.53.

Property for Educational uses was increased by the purchase and improvement as follows: Purchase and improvement of 2027 G Street at a cost of \$7,718.98, and the erection of fire-escapes on the Nurses' Home at a cost of \$796.00. The total value of educational real estate now being \$498,497.73, showing an increase of \$8,514.98.

Equipment costing \$3,067.59 and library books costing \$2,052.67 were added during the year. After writing off depreciation of 2 per cent on equipment, and 1 per cent on library books, the book values are for equipment \$93,020.54, and for library books \$43,570.48.

Contributions were received during the year, other than those previously mentioned under Trust Funds, and applied, as follows:

For Prizes	\$ 105.00
For Maintenance	1,150.00
For reducing mortgage 1016 13th St.....	1,000.00
	<hr/>
	\$2,255.00

The mortgage debt of the University was reduced by payment on

2023 G street.....	\$3,500.00
1016 13th street.....	1,000.00
1300 L street.....	300.00
	<hr/>
Total reduction.....	\$4,800.00

The mortgage debt at the close of the fiscal year was as follows:

2023 G street.....	\$11,500.00
2017 G street.....	6,500.00
1016 13th street.....	4,500.00
1300 L street.....	3,862.50
	<hr/>

Total mortgage debt.....\$26,362.50

It was considered necessary to retain the rented quarters of the University Annex at 2024 G street, and of the Law School at New Masonic Temple. By authority of the Board of Trustees, the lease on 2024 G street has been extended to Oct. 1, 1919, and the Trustees of the Masonic Temple Association have been requested to extend the lease for the Law School for two years from August 31, 1918.

The Law School Building Fund, authorized by the Board of Trustees May 31, 1916, amounts to \$5,162.47. The amount of all funds, including the Law School Building Fund in cash and securities, now available for building purposes, is \$27,254.53. Additional pledges are in hand, not due, amounting to \$9,221.53.

On October 24, 1916, the Finance Committee reported to the Board of Trustees in regard to all matters connected with the Attorney General's report. By a section of the committee's report, which was adopted by the Board, the amounts of principal of endowment funds applied to current expenses prior to August 31, 1910, and not rehabilitated on October 24, 1916, in cash or productive securities, were determined, as follows:

Congressional Endowment Fund.....	\$ 63,872.93
Poindexter Endowment Fund.....	12,525.56
Forty Thousand Dollar Endowment Fund..	26,891.46
Corcoran Endowment Fund.....	189,048.75
Elton Professorship Fund.....	10,133.19
Syms Endowment Fund.....	1,500.00
Walker Scholarship Fund.....	2,500.00
Withington Scholarship Fund.....	1,573.20
Morehouse Scholarship Fund.....	1,500.00
Kendall Scholarship Fund.....	1,459.61
Davis Scholarship Fund.....	960.00
M. M. Carter Scholarship Fund.....	1,000.00
Farnham Scholarship Fund.....	1,000.00
Stone Scholarship Fund.....	2,000.00
H. H. Carter Scholarship Fund.....	5,000.00
Ruggles Prize Fund.....	500.00
Staughton-Elton Prize Fund.....	500.00
Fitch Prize Fund.....	764.00
Ordranax Prize Fund.....	701.53
Total.....	\$323,430.23

The above amounts correspond with the amounts of principal of endowment funds ascertained in the Attorney General's report to have been applied to current expenses prior to August 31, 1910, except that the Davis Scholarship Fund is \$40 less, having been rehabilitated to this extent during the year 1915-1916, and the Corcoran Endowment Fund is \$110 less, having been rehabilitated to this extent prior to August 31, 1915.

On November 11, 1916, an agreement was executed between the University and the Washington Loan and Trust Company, by which the \$350,000 note given by the University December 1, 1910, to that Company as "Fiscal Agent of the George Washington University, Trustee of Endowment Funds," was reduced to the amount of \$223,430.23, being the total, as above, of principal of endowment funds applied to current expenses prior to August 31, 1910, and

not rehabilitated on November 11, 1916, in cash or productive securities; such reduction being provided for by the terms of the deed of trust on the Medical School and Hospital property securing the note above mentioned.

By another section of the report of the Finance Committee of October 24, 1916, which was adopted by the Board, the cash and securities applicable to endowment funds investments (Treasurer's Report for 1915-1916, pp. 29, 30), other than the note secured on the Medical School and Hospital property, amounting to \$84,609.16, was held to be applicable to the following parts of endowment funds, and endowment funds:

(Funds and portions of Endowment Funds held by the University prior to August 31, 1910, and found by the Attorney General to be represented by securities):

Corcoran Endowment Fund (plus \$110 given for rehabilitation since August 31, 1910).....	\$27,466.17
Elton Professorship Fund.....	4,375.00
Kendall Scholarship Fund.....	4,500.00
Cooper Medical Endowment Fund (plus \$681.25 income accumulated and added since August 31, 1910).....	10,000.00
National Park Seminary Hospital Endowment Fund.....	500.00
Davis Prize Fund.....	700.00
Fitch Prize Fund.....	236.00
Walsh Prize Fund.....	300.00
Cutter Prize Fund.....	1,000.00
Ordronaux Prize Fund.....	4,060.97

(Endowment Funds Real Estate converted into cash between August 31, 1910, and August 31, 1916):

Congressional Endowment Fund (Professorship of English)—proceeds of sale of lots.....	\$ 6,295.77
---	-------------

(New Endowment Funds received between August 31, 1910, and August 31, 1916):

Alumni Professorship Fund.....	\$ 746.09
Knapp Scholarship Fund.....	2,000.00
Withington Scholarship Fund (additional amount received).....	379.93
Davis Scholarship Fund (scholarship repaid).....	40.00
Woodbury Hospital Fund.....	9,583.33
Tree Hospital Fund.....	10,000.00
Chapman Hospital Fund.....	1,225.90
Hubbard Prize Fund.....	1,000.00
Sterrett Prize Fund.....	200.00

\$84,609.16

The recommendation of the Finance Committee that the income of the above securities and cash should be pro-rated to the above parts of endowment funds, and endowment funds, was adopted by the Board; the rule having been established by action of the Board taken May 31, 1916, that all endowment funds or parts of endowment fund, represented by productive securities or cash, shall pro-rate as to income, unless otherwise provided by the terms of the gift.

By another section of the report of the Finance Committee of October 24, 1916, which was adopted by the Board, the amounts of income of specific endowment funds appropriated to general expenses prior to August 31, 1910, and not rehabilitated in cash on October 24, 1916, was fixed as follows: (these being the amounts determined in the Attorney General's report)

Income of Powell Scholarship Fund to be rehabilitated..	\$22,272.00
Income of Stone Scholarship Fund to be rehabilitated..	775.38
Income of Fitch Prize Fund to be rehabilitated.....	914.83
Income of Walsh Prize Fund to be rehabilitated.....	126.58
Income of Ordranax Prize Fund to be rehabilitated.....	230.47
	<hr/>
	\$24,319.26

The income of the Cutter Prize Fund applied to current expenses prior to August 31, 1910, amounting to \$75.14, had theretofore been rehabilitated by private gift.

By another section of the report of the Finance Committee of October 24, 1916, which was adopted by the Board, the Denman Law School Fund was held to be an executory trust fund applicable, principal and interest, "for the use and benefit of the Law Department," and the amount of this fund applied to current expenses prior to August 31, 1910, was fixed at \$8,179.32—this being the amount found by the Attorney General to have been so applied. During the past year the University has rehabilitated this fund from surplus current income to the extent of \$1,000.

By action of the Board of Trustees on January 10, 1917, the name of the Poindexter Endowment Fund (Treasurer's Report, 1915-1916, p. 24), was changed to the "Subscription Gifts Endowment Fund, 1845-1851"; this fund being the result of a large number of subscriptions, and Rev. A. M. Poindexter having been only the paid agent of Columbian College in obtaining the subscriptions. The name Poindexter was attached to this fund in the Attorney General's Report. The change of name is duly made in the present Report.

By action of the Board of Trustees on January 10, 1917, the name of the Forty Thousand Dollar Endowment Fund was changed to the "Withers Endowment Fund," this fund having been founded by John Withers of Alexandria, Virginia, by a gift of property worth \$20,000, conditioned on the Columbian College raising \$20,000 more, which was done. The name "Forty Thousand Dollar Endowment Fund" was attached to the fund in the Attorney General's Report. The change of name is duly made in the present Report.

By action of the Board of Trustees on January 10, 1917, the Treasurer was directed to classify Professorship Funds distinct from both General Endowment Funds and Specific Endowment Funds, and this is accordingly done in the present Report.

Respectfully submitted,

CHARLES W. HOLMES,
Treasurer.

AUDITOR'S REPORT

Report of The American Audit Company

September 28, 1917.

We have examined the accounts and records of GEORGE WASHINGTON UNIVERSITY for the year ended August 31, 1917, and submit our report including Exhibits as follows:

- EXHIBIT "A"—Balance Sheet,
As at August 31, 1917.
- "B"—General Surplus,
As at August 31, 1917.
- "C"—Medical School Surplus,
As at August 31, 1917.
- "D"—Law School Surplus,
As at August 31, 1917.
- "E"—Revenue Account,
For the year ended August 31, 1917.
- "F"—Department of Arts and Sciences,
For the year ended August 31, 1917.
- "G"—Department of Arts and Sciences Summer School
For the year ended August 31, 1917.
- "H"—Law School,
For the year ended August 31, 1917.
- "I"—Law Summer School,
For the year ended August 31, 1917.
- "J"—Medical and Dental Schools,
For the year ended August 31, 1917.
- "K"—University Hospital,
For the year ended August 31, 1917.
- "L"—Statement of Cash Receipts and Payments,
For the year ended August 31, 1917.
- "M"—Trust Funds,
As at August 31, 1917.
- "N"—Endowment Funds Investments,
As at August 31, 1917.
- "O"—Executory Trust Funds Investments,
As at August 31, 1917.
- "P"—Endowment and Executory Trust Funds, In-
come and Expense,
For the year ended August 31, 1917.

CASH: \$26,706.29.

We counted the cash on hand September 24, 1917, and reconciled the Cash Account with bank pass books as at August 31, 1917, finding cash in accordance with the balance shown by the books and deposits in banks, as per bank pass books.

ACCOUNTS RECEIVABLE: \$9,155.13.

This amount consists of fees, etc., due for the term 1916-1917, from students in the various departments, and other accounts receivable as follows:

School of Graduate Studies.....	\$ 418.28	
Columbian College	2,373.85	
College of Engineering.....	611.74	
Teachers College	17.26	
Summer School	263.50	
	<u>\$3,684.63</u>	
Add Unadjusted Difference.....	47.70	
Total Department of Arts and Sciences.....		\$3,732.33
Law School		1,487.25
Medical School	564.77	
Dental School	779.90	
	<u>1,344.67</u>	
Accounts due University Hospital from patients for the year 1916-1917.....		986.25
Income from Endowments, available, but not trans- ferred to University account as at August 31, 1917		1,604.63
		<u>\$9,155.13</u>

The balances standing in accounts due at September 1, 1916, remaining unpaid at August 31, 1917, are considered worthless and were charged against the respective Surplus Accounts.

DEPRECIATION:

Depreciation on the Library books, University Equipment and Hospital Equipment was charged off to the amount of \$1,979.39.

NET INCOME:

The Net Income for the year from all departments, exclusive of the University Hospital, was \$20,822.93, as shown by Exhibit "E."

GENERAL SURPLUS: \$267,821.06.

The changes in this account since August 31, 1916, are shown by Exhibit "B."

MEDICAL SCHOOL SURPLUS: \$19,431.20.

This account includes the surplus of the University Hospital and Medical and Dental Schools at August 31, 1917, as shown by Exhibit "C."

LAW SCHOOL SURPLUS: \$3,308.38.

This account represents the Law School Surplus as at August 31, 1917, as shown by Exhibit "D."

AUDITOR'S REPORT

9

TRUST FUNDS:

On September 24, 1917, we inspected the securities representing the Investments of the Endowment and Executory Trust Funds, in stocks, bonds and notes, as per Exhibits "N" and "O."

We verified the cash balances as at August 31, 1917, representing uninvested principal \$5,264.69 and unexpended income \$10,320.04 of the Endowment and Executory Trust Funds with the bank pass books.

Respectfully submitted,

THE AMERICAN AUDIT COMPANY,

By C. R. CRANMER,

(Seal)

Resident Manager.

Approved:

F. W. LAFRENTZ, *President.*

Attest:

A. F. LAFRENTZ, *Secretary.*

The following is a list of the names of the persons who have been elected to the office of the President of the United States for the year 1917.

The names of the persons who have been elected to the office of the President of the United States for the year 1917 are as follows:

The names of the persons who have been elected to the office of the President of the United States for the year 1917 are as follows:

The names of the persons who have been elected to the office of the President of the United States for the year 1917 are as follows:

The names of the persons who have been elected to the office of the President of the United States for the year 1917 are as follows:

GENERAL ACCOUNTS

BALANCE SHEET.
As at August 31, 1917.

Assets		Liabilities	
Cash:		Trust Notes:	
In Bank	\$ 25,581.29	Notes secured by Deeds of Trust on	
Petty Cash Funds	1,125.00	2017 G St. N. W.	\$ 6,500.00
		2023 G St. N. W.	11,500.00
Accounts Receivable:		1016 13th St. N. W.	4,500.00
Students' Ledger, 1916-1917	6,564.25	1300 L St. N. W.	3,862.50
Hospital Accounts, 1916-1917	986.25		
Endowment Income Receivable	1,604.63	Interest payable	
		Student Activities	
Insurance:		Liability to Endowment Funds:	
Withdrawal value of Perpetual In-		Secured by Deed of Trust, dated De-	
surance Policies	1,406.25	cember 1, 1910, on Medical and	
Libraries—Books:		Hospital Lands and Buildings, 1335,	
Arts and Sciences	25,988.14	1339 and 1341 H St. N. W.	
Law School	16,101.55	Liability of the University General Prop-	
Medical School	4,152.16	erty:	
		To Denman Fund	7,179.32
Less Depreciation	46,241.85	To Specific Endowment Funds Income	
	2,671.37	which was applied to current ex-	
		penses prior to August 31, 1910....	24,319.26
Equipment:			
Arts and Sciences	42,869.56	Surplus:	
Law School	3,217.51	General Exhibit "B"	267,821.06
Medical School	23,761.80	Medical Exhibit "C"	19,431.20
University Hospital	23,499.70	Law Exhibit "D"	3,308.38
Less Depreciation	99,348.57		
	6,328.03		
Real Estate:			
Medical and Hospital Lands and Build-			
ings, 1335, 1339 & 1341 H St. N. W.	403,599.93		
2017 G St. N. W.	18,218.03		
2027 G St. N. W.	7,718.98		
2023 G St. N. W., including 3 lots ad-			
joining Engineering Laboratory			
Building	40,000.00		
2025 G St. N. W.	8,164.79		
1016 13th St. N. W. and 1300 L St.			
N. W.	20,796.00		
	498,497.73		

Trust Funds and Investments

Trust Funds Investments:	
Endowment Funds, Exhibit "N"	\$449,790.75
Executory Funds, Exhibit "O"	36,968.07
	<hr/>
Cash on hand, for Investment, August 31, 1917:	
Endowment Funds	218.44
Executory Funds	5,046.25
	<hr/>
	5,264.69
	<hr/>
	\$492,023.51
Trust Funds, Exhibit "M":	
Endowment Funds	\$450,009.19
Executory Funds	42,014.32
	<hr/>
	492,023.51
	<hr/>
	\$492,023.51

NOTE:

Surplus General Property	\$290,560.64
Trust Funds	492,023.51
Unexpended Trust Funds Income	10,320.04
	<hr/>
Total Net Resources	\$792,904.19

REPORT OF THE TREASURER

EXHIBIT "B."

GENERAL SURPLUS.

As at August 31, 1917.

Balance, as at September 1, 1916.....\$248,167.00

Add:

Contributions to Fifty Thousand Dollar Building and Grounds Fund.....	3,171.00
Old Accounts Collected: Prior to current year	63.83
Net Income for University for the year ended August 31, 1917, transferred from Revenue Account, Exhibit "E".....	20,822.93
	<u>\$272,224.76</u>

Less:

Fees, 1915-1916	362.60
Uncollectible Accounts, 1915-1916.....	1,221.02
1915-1916 Summer School Salaries.....	504.30
Net Income Medical and Dental Schools for the year ended August 31, 1917, transferred to Medical School Surplus, Exhibit "C"	991.31
Net Income Law School for the year ended August 31, 1917, transferred to Law School Surplus, Exhibit "D".....	1,324.47
	<u>4,403.70</u>

Balance August 31, 1917.....\$267,821.06

NOTE BY TREASURER:—

Balance August 31, 1917.....	\$267,821.06
Invested in Real Estate, Equipment, etc.....	\$245,672.10
Students' accounts uncollected.....	3,604.63
	<u>249,276.73</u>
Available Cash Balance August 31, 1917.....	<u><u>\$ 18,544.33</u></u>

GENERAL ACCOUNTS

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EXHIBIT "C."

MEDICAL SCHOOL SURPLUS.

As at August 31, 1917.

Balance, as at September 1, 1916.....\$16,948.91

Add:

Donation from Board of Lady Managers for payment on Trust Notes, Nurses Home.....	1,000.00
1915-16 Fees Charged	40.00
Hospital Accounts 1910-15 Collected.....	270.03
Net Income Medical and Dental Schools for the year ended August 31, 1917, Exhibit "J".....	991.31
Net Income University Hospital for the year ended August 31, 1917, Exhibit "K".....	1,552.65
	<u>\$20,802.90</u>

Less:

Uncollectible Accounts:

Medical and Dental Schools, 1915-1916.\$	388.09
Hospital, 1915-1916	707.50
	<u>\$ 1,095.59</u>
Fees Medical and Dental Schools, 1915-1916.....	181.11
Summer School Salaries, 1915-1916.....	95.00
	<u>1,371.70</u>
Balance August 31, 1917.....	<u><u>\$19,431.20</u></u>

NOTE BY TREASURER:

Balance August 31, 1917.....	\$19,431.20
Invested in Real Estate, Equipment, etc.....	\$ 9,384.38
Students and Hospital Accounts Uncollected.....	2,330.92
	<u>11,715.30</u>
Available Cash Balance August 31, 1917.....	<u><u>\$ 7,715.90</u></u>

REPORT OF THE TREASURER

EXHIBIT "D."

LAW SCHOOL SURPLUS.

As at August 31, 1917.

Balance, as at September 1, 1916.....	\$6,818.26
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Add:

1915-16 Fees Charged	5.00
Net Income Law School for year ended August 31, 1917,	
Exhibit "H"	1,324.47
	<u>\$8,147.73</u>

Less:

Transfer of Cash Surplus of 1915-16 to Trust Funds	
for Investment	\$4,456.60
Uncollectible Accounts, 1915-16	362.75
Payments for Summer Instruction, 1916.....	20.00
	<u>4,839.35</u>

Balance August 31, 1917.....	<u><u>\$3,308.38</u></u>
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NOTE BY TREASURER:

Balance August 31, 1917.....	\$3,308.38
Invested in Equipment, etc.....	\$2,420.07
Students' Accounts Uncollected	1,567.25
	<u>3,987.32</u>
Deficit August 31, 1917.....	\$ 678.94

EXHIBIT "E."

REVENUE ACCOUNT.

For the year ended August 31, 1917.

Expenses.

Administration Expenses:	
Salaries, Clerk Hire, etc.	\$14,242.64
Stationery and Printing	1,122.16
Telephone	182.74
Advertising	434.86
Postage	687.83
Auditing	500.00
Commencement Expenses	2,023.33
Attorney's Retainer	250.00
Miscellaneous	365.03
	<u>\$19,808.59</u>
Intercollegiate Intelligence Bureau	204.50
Debating Council	94.25
Interest on Trust Notes	1,017.93
Taxes	624.00
Net Income for year ended August 31, 1917, transferred to Surplus Account, Exhibit "B"	20,822.93
	<u>\$42,572.20</u>

Income.

Department of Arts and Sciences:	
Exhibit "F"	\$13,554.80
Law School:	
Exhibit "H"	1,324.47
Medical and Dental Schools:	
Exhibit "J"	991.31
Contributions:	
Maintenance Fund, 1912-1916.	\$ 1,150.00
General Expenses from:	
Dept. of Arts and Sciences.	\$15,500.00
Law School	1,500.00
Dental School	1,000.00
University Hospital	1,500.00
	<u>19,500.00</u>
	20,650.00
Income from Investments:	
Endowments for General Purposes, Exhibit "P"	1,604.63
Income from Other Sources:	
Graduation Fees	\$ 2,778.00
Bonding Fees	60.00
Interest	814.54
Matriculation Fees, National School of Pharmacy	35.00
Matriculation Fees, Veterinary School.	85.00
From Powell Fund, Account of Salary of G. W. Littlehales	400.00
Instruction given Veterinary Students.	245.70
Miscellaneous	28.75
	<u>4,446.99</u>
	<u>\$42,572.20</u>

GENERAL ACCOUNTS

EXHIBIT "F."

DEPARTMENT OF ARTS AND SCIENCES.

For the year ended August 31, 1917.

Income.

Tuition:

School of Graduate Studies.....	\$ 7,581.73	
Columbian College	53,257.02	
College of Engineering	16,865.29	
Teachers College	9,609.57	
		<u>\$87,313.61</u>

Matriculation:

School of Graduate Studies.....	235.00	
Columbian College	2,355.00	
College of Engineering	625.00	
Teachers College	465.00	
		<u>3,680.00</u>

Laboratory:

School of Graduate Studies.....	218.57	
Columbian College	3,220.80	
College of Engineering	1,038.31	
Teachers College	110.20	
		<u>4,587.88</u>

Library:

School of Graduate Studies.....	237.00	
Columbian College	1,437.00	
College of Engineering	447.00	
Teachers College	377.00	
		<u>2,498.00</u>

Miscellaneous:

Contribution for Chi Omega Prizes.....	30.00	
Columbian College	80.00	
Rent of Fraternity Rooms.....	408.00	
		<u>518.00</u>
		<u>\$98,597.49</u>

GENERAL ACCOUNTS

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Expenses.

Chi Omega Prizes	\$ 30.00	
Salaries	55,759.75	
Laboratory	3,166.94	
Library	90.73	
Stationery and Printing	1,448.92	
Postage	142.57	
Depreciation on Equipment	857.39	
Depreciation on Library Books.....	259.88	
Miscellaneous	670.60	
		<u>\$62,426.78</u>
University Hall:		
Wages	\$ 3,291.73	
Rent	900.00	
Heat and Light	1,893.50	
Hauling	117.00	
Repairs	2,008.91	
Supplies and Expense.....	1,126.69	
		<u>9,337.83</u>
Transferred to General Funds.....	15,500.00	
		<u>87,264.61</u>
		<u>\$11,332.88</u>
Net Income Department of Arts and Sciences Summer		
School transferred from Exhibit "G".....	2,221.92	
		<u>\$13,554.80</u>

NOTE:

Library books were purchased during the year to the amount of \$1,023.30.

NOTE:

Tuition was rendered by the Department of Arts and Sciences for which it received no monetary consideration as follows:

Scholarships	\$4,978.33	
University Aid	1,337.50	
Ministerial Aid	476.25	
		<u>\$6,792.08</u>

REPORT OF THE TREASURER

EXHIBIT "C."

DEPARTMENT OF ARTS AND SCIENCES
SUMMER SCHOOL.

For the year ended August 31, 1917.

Income.

Tuition	\$4,315.50	
Laboratories	358.76	
		<u>\$4,674.26</u>

Expenses.

Salaries	\$2,305.00	
Stationery and Printing	112.20	
Advertising	12.34	
Miscellaneous	22.80	
		<u>2,452.34</u>

Net Income transferred to Department of Arts and Sciences, Exhibit "F"	<u><u>\$2,221.92</u></u>
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GENERAL ACCOUNTS

21

EXHIBIT "H."

LAW SCHOOL.

For the year ended August 31, 1917.

Income.

Tuition	\$31,443.00
Matriculation	695.00
Library	960.00
Contribution for Ellsworth Prize, 1916-17.....	25.00
Contribution for Phi Delta Phi Prize, 1915-16....	25.00
Contribution for Herrick Prize, 1916-17.....	25.00
	<u>\$33,173.00</u>

Expenses.

Salaries	\$24,695.45
Library	39.50
Stationery and Printing	592.83
Telephone	180.48
Postage	159.25
Advertising	518.09
Ellsworth Prize	25.00
Phi Delta Phi Prize.....	25.00
Herrick Prize	25.00
Depreciation on Equipment	64.35
Depreciation on Library Books.....	161.01
Miscellaneous	43.30
	<u>26,529.26</u>

Law Hall:

Wages	367.50
Rent	3,000.00
Light	183.50
Repairs to Equipment	239.60
Supplies and Expense	121.33
	<u>3,911.93</u>

Transferred to General Funds.....	1,500.00
	<u>31,941.19</u>
	<u>\$ 1,231.81</u>

Net Income Law Summer School transferred from Exhibit "I"	92.66
	<u>\$ 1,324.47</u>

Net Income transferred to Revenue Account, Exhibit "E" .. \$ 1,324.47

NOTE:

Library books were purchased during the year to the amount of \$944.77.

EXHIBIT "I."

LAW SUMMER SCHOOL.

For the year ended August 31, 1917.

Income.

Tuition	\$930.00
---------------	----------

Expenses.

Salaries	\$802.44
Stationery and Printing	15.50
Advertising	19.40
	<u>837.34</u>

Net Income transferred to Law School, Exhibit "H".....	<u>\$ 92.66</u>
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EXHIBIT "J."

MEDICAL AND DENTAL SCHOOLS.

For the year ended August 31, 1917.

Income.

Medical School:	
Tuition	\$16,629.45
Matriculation	120.00
Laboratory	550.27
Library	316.50
Rent of Microscopes	582.25
Miscellaneous	594.34
	<hr/>
	\$18,792.81
Dental School:	
Tuition	\$15,103.73
Matriculation	285.00
Infirmery	2,821.91
Library	265.00
Rent of Microscopes	491.00
Miscellaneous	385.93
	<hr/>
	19,352.57

Expenses.

Salaries	\$22,037.50
Laboratory	3,317.10
Infirmery	1,830.23
Library	50.05
Advertising	155.32
Stationery and Printing	992.29
Telephone	240.00
Postage	139.52
Depreciation on Equipment.....	595.24
Depreciation on Library Books.....	41.52
Miscellaneous	373.85
	<hr/>
	29,772.62
Medical Hall:	
Wages	\$ 1,702.50
Heat and Light	2,947.78
Hauling	166.00
Repairs	796.17
Supplies and Expense	769.00
	<hr/>
	6,381.45
Transferred to General Funds from Dental	
School	1,000.00
	<hr/>
	37,154.07
Net Income Medical and Dental Schools transferred to	
Revenue Account, Exhibit "E".....	<u>\$ 991.31</u>

NOTE:

Library books were purchased during the year to the amount of \$94.60.

NOTE:

Tuition to the amount of \$225.00 was rendered by the Medical School for which it received no monetary consideration.

GENERAL ACCOUNTS

23

EXHIBIT "K."

UNIVERSITY HOSPITAL.

For the year ended August 31, 1917.

Income

Pay Patients:	
Collected	\$53,212.67
Uncollected	986.25
	<u>\$54,198.92</u>

Expenses

Salaries	\$14,399.17
Table Supplies	18,039.29
Medical and Surgical Supplies.....	6,659.51
Electricity and Gas	2,060.29
Fuel	1,803.76
Laundry	1,427.48
Repairs	1,148.03
Miscellaneous Supplies	2,015.02
Ice	959.92
Telephone	518.68
Stationery and Printing.....	549.75
Insurance	71.50
Interest	575.00
Hauling	152.50
Miscellaneous	766.37
	<u>\$51,146.27</u>
Transferred to General Funds.....	1,500.00
	<u>52,646.27</u>
Net Gain transferred to Medical School Surplus Exhibit "C"	<u>\$1,552.65</u>

EXHIBIT "L."
STATEMENT OF CASH RECEIPTS AND PAYMENTS.
For the year ended August 31, 1917.

<i>Receipts</i>		<i>Payments</i>	
Receipts from Students:		Expenses:	
Department of Graduate Studies.....	\$ 8,110.44	Department of Arts and Sciences.....	\$61,606.40
Columbian College	59,668.72	Law School	26,339.90
Department of Engineering.....	18,498.34	Medical School	22,706.89
Department of Teachers College.....	10,511.36	Dental School	4,546.74
Law School	31,733.00	Summer School:	
Medical School	17,413.17	Arts and Sciences Department.....	2,457.34
Dental School	16,766.26	Law School	832.34
Graduation Fees	2,115.00		
Summer School:		University Hospital	\$118,489.61
Arts and Sciences Department.....	4,593.50	Dental Infirmary	51,297.27
Law School	855.00	Refunds to Students.....	1,830.23
		Maintenance of Buildings:	3,248.55
		University Buildings	
University Hospital	\$170,264.79	Law Hall	9,041.03
Dental Infirmary	53,595.90	Medical Hall	3,911.93
Contributions:	2,821.91		6,406.00
General Expenses, 1912-1916.....	1,150.00		
Fifty Thousand Dollar Building and		General Expense	19,358.96
Ground Fund	3,171.00	Stationery and Printing.....	16,192.91
		Advertising	1,082.91
Students' Fees, 1915-1916.....		Postage	434.86
Rent of Fraternity Rooms.....		Interest	687.83
		Commencement Expenses	1,075.00
		Equipment Medical School.....	2,023.33
		Equipment University Hospital.....	458.39
		Equipment Arts and Sciences-General..	43.90
		Arts and Sciences Library, Books.....	2,490.30
		Law School Library, Books.....	1,023.30
		Medical School Library, Books.....	944.77
		Real Estate, 2027 G St. N. W.....	94.60
		Real Estate, 1016 13th St. N. W.....	7,703.05
		Taxes	796.00
		Trust Notes, 2023 G St. N. W.....	30.54
			3,500.00

GENERAL ACCOUNTS

25

Donations:			
Board of Lady Managers, to apply on			
Trust on Nurses' Home.....	1,000.00		1,000.00
Prizes	105.00		300.00
National College of Pharmacy—Matriculation Fees		1,105.00	
College of Veterinary Medicine:		35.00	
Medical School Instruction.....	633.70		4,476.60
Arts and Sciences Chemical Laboratory Instruction	245.70		95.00
Matriculation Fees	85.00		504.30
Rent of Microscopes.....	173.00		204.50
Transfer of Endowment Income.....		1,137.40	94.25
Special Examinations		2,483.01	
Interest on Bank Balances.....		232.00	
Student Activities		814.54	
Miscellaneous		6,640.00	
		471.37	
Total Receipts		\$247,342.93	
Cash Balance, September 1, 1916:			\$247,092.28
Riggs National Bank.....	24,402.74		
Commercial National Bank.....	927.90		
		25,330.64	
		\$272,673.57	
Trust Notes, Nurses' Home.....			
Equitable Co-operative Building Association Loan Account.....			
Law School Surplus:			
Salaries Summer School, 1916.....		20.00	
Investment		4,456.00	
Medical School Surplus:			
Salaries Summer School, 1916.....			
General Surplus — Salaries Summer School, 1916.....			
Intercollegiate Intelligence Bureau.....			
Debating Council			
Transferred to Special Account at American Security & Trust Co. for Student Activities			
General Funds Transferred to Apply to the Rehabilitation of the Denman Fund			
			6,611.32
			1,000.00
Total Payments			\$247,092.28
Cash Balance, August 31, 1917:			
Riggs National Bank.....	24,653.39		
Commercial National Bank.....	927.90		
			25,581.29
			\$272,673.57

TRUST ACCOUNTS

EXHIBIT "M."

TRUST FUNDS.

As at August 31, 1917.

GENERAL ENDOWMENT FUNDS

Permanent funds, principal to be invested and income only to be used, for support of the general work of the University.

Subscription Gifts Endowment Fund, 1845-1851:

Fund raised by authority of the Trustees of Columbian College by general subscription between the years 1845 and 1851, as a permanent endowment for the support of the College. (Formerly called the Poindexter Endowment Fund. See page 6)..... 12,525.56

Withers Endowment Fund:

Fund raised by authority of the Trustees of Columbian College between the years 1851 and 1870, for increasing the endowment fund of the College; John Withers of Alexandria, Virginia, giving \$16,100, and the balance being obtained by general subscription. (Formerly called the Forty Thousand Dollar Endowment Fund. See page 6)..... 26,891.46

Corcoran Endowment Fund:

Fund raised by authority of the Trustees of Columbian College and Columbian University between the years 1871 and 1886, to be forever held inalienable, and not to be diminished by use for the support of the institution, but the whole amount to be invested, in the discretion of the Trustees and according to their best judgment, and the interest thereon, or the income therefrom to be used for the current expenses and support of the institution; William W. Corcoran, of Washington, D. C., giving \$112,000, and the balance being obtained by general subscription (\$189,048.75 of this fund invested in Deed of Trust on Medical and Hospital Lands and Buildings) 217,864.92

Syms Endowment Fund:

Bequest of Samuel Robert Syms, of West Hoboken, New Jersey, in 1891, to Columbian University, to be applied by the Trustees towards the endowment of the College proper 1,500.00
\$258,781.94

PROFESSORSHIP ENDOWMENT FUNDS

Permanent funds, principal to be invested and income only to be used, for support of professorships as specified by the donors.

Congressional Professorship Endowment Fund:

Donation by the United States, in 1832, by Act of Congress, of \$25,000 in city lots in Washington, D. C., to be sold and the proceeds invested as a capital, the dividends or interest to be used and applied, in aid of other revenues of Columbian College, to the establishment and endowment of such professorships therein "as now are, or hereafter shall be, established by the Trustees"; (appropriated to the extent of \$6,295.77 by vote of the Board of Trustees to the support of the Professorship of English) \$ 91,707.70

Elton Professorship Fund:

Bequest of Rev. Romeo Elton, of Exeter, England, in 1872, to be applied for the foundation of a professorship of mental and moral philosophy in Columbian College, to be called the Elton Professorship of Mental and Moral Philosophy..... 14,508.19

Alumni Professorship Fund:

Gifts of various alumni since 1911, for the endowment of an Alumni Professorship of Mathematics, the amount to be invested and the interest only to be used for the professorship 778.89

\$106,994.78

SPECIFIC ENDOWMENT FUNDS

Permanent funds, principal to be invested and income only to be used, for designated purposes specified by the donors (other than support of professorships) incidental to, or connected with, the general work of the University.

*Scholarship Funds:**Walker Scholarship Fund:*

Gift of William Walker, of Putnam County, Georgia, in 1824, for the endowment of a scholarship..... 2,500.00

Withington Scholarship Fund:

Gift of the Board of Trustees of the New York Baptist Theological Seminary, on behalf of John Withington of New York, in 1829, for the purpose of endowing a scholarship in Columbian College, to be named the Withington Scholarship..... 1,953.13

Morehouse Scholarship Fund:

Gift of A. Morehouse, of Washington, D. C., in 1861, to Columbian College, with the design of adding to its ability to furnish gratuitous instruction to indigent students for the Christian ministry..... 1,500.00

Kendall Scholarship Fund:

Gift of Amos Kendall, of Washington, D. C., in 1869, to Columbian College on behalf of Calvary Baptist Church in the City of Washington, to purchase a classical scholarship; the Trustees of Public Schools in the City of Washington, and their successors, to have the perpetual privilege of selecting from said schools one pupil annually to fill said scholarship, and the pupils so selected each to be entitled to instruction in said College for the term of six years, free of charge for tuition, use of library, and apparatus, or for any other privilege allowed to paying students of the same grade 5,959.61

Davis Scholarship Fund:

Gift of Isaac Davis, of Worcester, Massachusetts, in 1869, the income to be appropriated to some student pursuing his collegiate course in Columbian College under certain conditions 1,000.00

M. M. Carter Scholarship Fund:

Gift of Mrs. Maria M. Carter, of Washington, D. C., in 1871, to Columbian College, to found a scholarship for some deserving young man..... 1,000.00

Farnham Scholarship Fund:

Gift of Mrs. Robert Farnham, of Washington, D. C.,
in 1871, to Columbian College for a scholarship in the
College 1,000.00

Powell Scholarship Fund:

Devise of real estate by Rear Admiral Levin M. Powell,
of Washington, D. C., in 1886, to Columbian Univer-
sity for the free education of young men by way of
preparation for entrance into the Naval Academy at
Annapolis, or to fit them to become mates and masters
in the Merchant Marine Service of the United States. 18,923.00

Mary Lowell Stone Scholarship Fund:

Gift of an anonymous person in memory of Miss Mary
Lowell Stone, in 1893, to Columbian University for
scholarships for needy women students in science in
the Department of Arts and Sciences..... 2,000.00

H. H. Carter Scholarship Fund:

Gift of Mrs. Maria M. Carter, of Washington, D. C., in
1896, in memory of her husband, Henry Harding
Carter, to Columbian University, as a foundation for
scholarships in civil engineering in Columbian College 5,000.00

Nellie Maynard Knapp Scholarship Fund:

Gift of the Columbian Women, in 1915, in memory of
Mrs. Nellie Maynard Knapp, to George Washington
University, for scholarships for women in the Depart-
ment of Arts and Sciences..... 2,000.00

\$42,835.74

*Medical School and Hospital Funds:**Cooper Medical Research Fund:*

Bequest of Mrs. Eleanor J. Cooper, of Washington,
D. C., in 1905, to Columbian University on certain
terms since modified by the Supreme Court of D. C.
as follows: The income to be devoted towards the
establishment and maintenance, in connection with the
Medical Department of George Washington Univer-
sity, of a Research Laboratory, the work of this
laboratory to be devoted to the investigation of the
nature, causation, prevention, and cure of malaria
and other infectious and contagious diseases..... 10,000.00

National Park Seminary Hospital Endowment Fund:

Gift of students of National Park Seminary, of Forest
Glen, Maryland, in 1906, to George Washington
University, for the endowment of a bed in the Uni-
versity Hospital 500.00

Woodbury Hospital Endowment Fund:

Bequest of Miss Ellen deQ. Woodbury, of Washington,
D. C., in 1909, to George Washington University, for
the reception and treatment of female patients in
the hospital belonging to or connected with the Uni-
versity 9,583.33

Chapman Hospital Endowment Fund:

Bequest of Mrs. Susanna A. Chapman, of Washing-
ton, D. C., in 1911, to George Washington Univer-
sity, to be used for the purposes of the free wards
of its University Hospital..... 1,350.90

Tree Hospital Endowment Fund:

Bequest of Lambert M. Tree, of Chicago, Illinois, in 1911, in memory of his mother, Mrs. Laura M. Tree, to Columbian University, for the purpose of establishing one or more beds in perpetuity in the University Hospital to be known as the "Laura M. Tree bed or beds"	10,000.00
	<u>\$31,434.23</u>

*Prize Funds:**Davis Prize Fund:*

Gift of Isaac Davis, of Worcester, Massachusetts, in 1847, to Columbian College, for prizes to be awarded annually to such members of the senior class as shall have made the greatest progress in elocution since their connection with the College.....	700.00
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Ruggles Prize Fund:

Gift of William Ruggles, of Washington, D. C. (a professor in Columbian College and at one time Acting President), in 1859, to Columbian College, for a prize to be awarded annually for excellence in mathematics	500.00
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Staughton-Elton Prize Fund:

Gift of Rev. Romeo Elton, of Exeter, England, in 1860 and 1865, to Columbian College, for prizes to be awarded annually for excellence in the Latin and Greek languages; one to be called the Staughton prize in Latin, the other the Elton prize in Greek.....	500.00
---	--------

Fitch Prize Fund:

Gift of James E. Fitch, of Washington, D. C., in 1883, to Columbian University in memory of Willie E. Fitch, for a gold prize medal to be assigned annually under the auspices of the Scientific School..	1,000.00
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Walsh Prize Fund:

Gift of Thomas F. Walsh, of Washington, D. C., in 1901, to Columbian University, for a gold medal to be awarded annually for excellence in Irish history.	300.00
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Cutter Prize Fund:

Gift of Marion Kendall Cutter, of Washington, D. C., in 1902, to Columbian University, in memory of E. K. Cutter, for a prize to be awarded annually for excellence in the study of English.....	1,000.00
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Hubbard Prize Fund:

Gift of Mrs. Gertrude M. Hubbard, of Washington, D. C., in 1907, to George Washington University in memory of her husband, Gardiner G. Hubbard, for a prize to be awarded annually to the student in the undergraduate department of the University who, having maintained throughout four years a high standing in the classes of American history, may be required to present the best essay upon an assigned topic in this subject.....	1,000.00
--	----------

Ordronaux Prize Fund:

Bequest of John Ordronaux, of Glen Head, N. Y., in 1909, to George Washington University, for the establishment of biennial prizes in the Law and Medical Departments 4,762.50

Sterrett Prize Fund:

Gift of Rev. J. Macbride Sterrett, in 1911, to George Washington University in memory of his son, J. Macbride Sterrett, Jr., for a gold medal to be awarded annually to the student obtaining highest average in physics 200.00

\$9,962.50

EXECUTORY TRUST FUNDS

Non-permanent funds, principal and income usable for the purposes specified by the donors, each trust terminating on its execution.

*Executory Trust Funds not Confined to Building Purposes:**Denman Law School Fund:*

Bequest of Hampton Y. Denman, of Washington, D. C., in 1904, to Columbian University, for the use and benefit of the Law Department..... 8,719.91

Law School Fund:

Amounts set aside by the Trustees of the University since 1911 for the benefit of the Law School..... 14,697.18

Jacques Law School Fund:

Bequest of Mrs. Mary Emma Jacques, of Washington, D. C., in 1912, to George Washington University, to be used in such manner as the Trustees may direct for the Law School..... 4,363.69

Jacques Medical School Fund:

Bequest of Mrs. Mary Emma Jacques, of Washington, D. C., in 1912, to George Washington University, to be used in such manner as the Trustees may direct for the Hospital of the University..... 4,363.70

Mayer Hospital Fund:

Bequest of Theodore J. Mayer, of Washington, D. C., in 1907 (received in 1916), to George Washington University, for the benefit of the University Hospital 3,678.95

\$35,823.43

*Building Funds:**Law School Building Fund:*

Gifts of various persons towards a fund authorized by the Trustees of the University May 31, 1916, for purchasing a site and erecting a Law School building 5,162.47

General Building Fund:

Gifts of various persons towards a fund authorized by the Trustees of the University May 31, 1916, for purchasing sites, buildings and equipment, remodelling or rebuilding, and paying off obligations. This is an open subscription fund, to be continued and increased indefinitely. (All subscriptions to this fund have been appropriated, by resolution of the Board of Trustees to the Law School Building Fund, until otherwise directed.) 653.42

Fifty Thousand Dollar Building and Grounds Fund:

Gifts of various persons towards a fund authorized by the Trustees of the University for purchasing sites and buildings, remodelling or rebuilding, and paying off obligations in Square 102. 100.00

Mechanical Engineering Laboratory Building Fund:

Gifts of various persons towards a fund authorized by the Trustees of the University for erection and equipment of a building for Mechanical Engineering. This building has been completed. The amount stated in account represents delayed payments on subscriptions, and is to be transferred to General Account to reimburse for advances during construction. 275.00

\$6,190.89

Summary.

General Endowment Funds \$258,781.94
 Professorship Endowment Funds 106,994.78

Specific Endowment Funds:

Scholarship Funds \$42,835.74
 Medical School and Hospital Funds..... 31,434.23
 Prize Funds 9,962.50

84,232.47

Total Endowment Funds \$450,009.19

Executory Trust Funds:

Funds not confined to building purposes..... \$35,823.43
 Building Funds 6,190.89

Total Executory Trust Funds 42,014.32

Total Trust Funds \$492,023.51

EXHIBIT "N."
ENDOWMENT FUNDS INVESTMENTS.

As at August 31, 1917.

STOCKS.

American Telephone and Telegraph Co.:	
6 shares of stock.....	\$ 708.00
Washington Sanitary Improvement Co.:	
130 shares of stock.....	1,300.00
Chicago, Rock Island and Pacific Railway Co.:	
Receipt from Bankers' Trust Company for payment on 40 shares of Preferred Stock.....	4,000.00

BONDS.

Chicago, Rock Island & Pacific Railway Co.:	
\$24,000 4 per cent First and Refunding Mortgage Bonds, due 1934	20,959.17
* Chicago, Rock Island and Pacific Railway Co.:	
\$10,000 4 per cent Collateral Trust Bonds, due 2002.....	8,094.72
Virginia Railway Co.:	
\$300 5 per cent First Mortgage Gold Bonds, Series "A," due 1962.....	297.38
Washington Railway and Electric Co.:	
\$4,500 4 per cent Consolidated Mortgage Gold Bonds, due 1951.....	3,631.25
Potomac Electric Power Co.:	
\$15,000 5 per cent Consolidated Mortgage Gold Coupon Bonds, due 1936.....	15,025.00
Norfolk and Washington Steamboat Co.:	
\$200 5 per cent Coupon Bonds, due 1931.....	208.00
City of New Brunswick, New Jersey:	
\$3,000 4 per cent Sinking Fund Bonds, due 1922.....	3,000.00
City of Medford, Massachusetts:	
\$3,000 4 per cent Sewerage Loan Bonds, due 1924.....	3,000.00

TRUST NOTES.

Thomas R. Marshall Note:	
Secured by deed of trust on part of lot 5, square 253, and lot 70, block 30, in Columbia Heights; interest 5 per cent; due May 5, 1919.....	5,000.00
Washington Sanitary Improvement Co., Notes:	
Secured by deed of trust on lots in squares 509, 552, 615, 617 and 674; interest 5 per cent; due June 9, 1920.....	16,000.00
Agnes Plunkett Notes:	
Secured by deed of trust on part of lot 12, square 11, in Meridian Hill; interest 5½ per cent; due February 4, 1920.....	200.00
Arthur T. Ramsey and Judith L. Steele Notes:	
Secured by deed of trust on lots 21, 22, 23 and part of lot 9, block 32, Columbia Heights; interest 5 per cent; due March 20, 1920.....	3,000.00
Interest in \$350,000.00 note payable to Washington Loan and Trust Co., Fiscal Agent of George Washington University, Trustee of Endowment Funds, secured by deed of trust, executed by the University to National Savings and Trust Company, Trustee, December 1, 1910, on Medical and Hospital Lands and Buildings, 1335, 1339 and 1341 H St N. W.; without interest; due on or before December 1, 1920.....	323,430.23

* On these bonds the University has received 100 shares of Chicago, Rock Island and Pacific Railway Co. stock; the stock certificate representing this stock, deposited with the Bankers Trust Co., according to its Certificate of Deposit No. C3839, dated January 5, 1917.

TRUST ACCOUNTS

35

REAL ESTATE.

Congressional Endowment:

Lot 8, square 13.....	\$2,565.00	
Lot 10, square 13.....	2,218.00	
Lot 12, square 13.....	4,588.00	
Lot 13, square 13.....	3,924.00	
Lot 9, square 16.....	2,224.00	
Lot 8, square 23.....	3,055.00	
Lot 2, square west of 23.....	1,069.00	
Lot, 5, square 87.....	1,896.00	
		\$ 21,539.00
Powell Endowment, 1707 I St. N. W.....		18,923.00
Chapman Endowment, Hyattsville.....		125.00
Corcoran Endowment, sub-lot 148, square 672.....		1,350.00
		<u>\$449,790.75</u>

SUMMARY.

Stocks	\$ 6,008.00	
Bonds	54,215.52	
Trust Notes	24,200.00	
Deed of Trust.....	323,430.23	
Real Estate	41,937.00	
		\$449,790.75
Cash on hand for Investment August 31, 1917, Exhibit "A".....		218.44
Total Endowment Funds, Exhibit "M".....		<u>\$450,009.19</u>

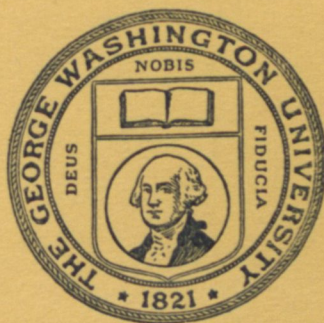
VOLUME XVI

NUMBER 4

George Washington University Bulletin

REPORT OF THE PRESIDENT

1916-17



PUBLISHED BY THE UNIVERSITY
WASHINGTON, D. C.



George Washington University Bulletin

REPORT OF THE PRESIDENT

Volume XVI, Number 4,

December, 1917

PUBLISHED FOUR TIMES A YEAR; IN MARCH, JUNE,
OCTOBER AND DECEMBER

Entered October 6, 1904, at Washington, D. C., as second-class matter under
Act of Congress of July 16, 1894

George Washington University
Bulletin

REPORT OF THE PRESIDENT

Volume XVI, Number 4

December, 1917

PUBLISHED BY THE BOARD OF TRUSTEES, GEORGE WASHINGTON UNIVERSITY,
WASHINGTON, D. C.

Entered as Second-Class Matter, June 15, 1909, at Washington, D. C., under No. 100,000.
Postage paid at Washington, D. C., under No. 100,000.

GEORGE WASHINGTON UNIVERSITY REPORT OF THE PRESIDENT

WASHINGTON, D. C., December 31, 1917.

TO THE CHAIRMAN OF THE BOARD OF TRUSTEES:

SIR: I have the honor to present herewith my report upon the affairs of George Washington University for the academic year 1916-17 which ended August 31, 1917, to which is added a general mention of the events worthy of note up to the date of this report.

The prescribed courses in the various departments of the University were carried on during the year until the annual commencement June 6, 1917. The maximum registration in all departments for the year was 2194. The largest number of students in attendance at any one time was 1905. These numbers show a continued increase in enrollment over the numbers of previous years.

The distribution of the students in the various departments of the University up to the time of the Annual Commencement, giving the maximum registration in each case, was as follows:

DISTRIBUTION

Department of Arts and Sciences

School of Graduate Studies.....	140	
Columbian College.....	842	
College of Engineering.....	257	
Teachers College.....	207	
	<hr/>	
	1,446	
Duplicates.....	1	1,445

Professional Schools

Medical School.....	118	
Dental School.....	153	
Law School.....	404	
	<hr/>	
		675

Associated Colleges

College of Pharmacy.....	35	
College of Veterinary Medicine.....	58	93
		<hr/>
		2,213
Duplicates.....		19
		<hr/>
		2,194

The teaching staff of the University for the same time was as following:

Teaching Staff

(Omitting Faculties of Associated Colleges)

In many instances members of the Teaching Staff give only part time to the University.

Professors.....	85
Associate Professors.....	9
Associates.....	16
Assistant Professors.....	20
Lecturers and Instructors.....	70
Assistants and Demonstrators.....	52
	<hr/>
	252

These tables do not include an enrollment of the Summer School which also shows an increase over last summer and was as follows:

Arts and Sciences.....	213
Medical School.....	35
Law School.....	61
	<hr/>
	309

With much regret I have to announce the death during the past year of Assistant Professor E. O. Schreiber, Jr., of the Law School. Assistant Professor Schreiber was essentially a product of the University. Coming from a public high school of the District as the winner of the Kendall scholarship, he graduated with distinction from Columbian College and the Law School, finally becoming an Assistant Professor in the

Law School and acquiring an advanced degree from the Harvard Law School. His future was of great promise and his death is a loss to the University.

Contributions to the University Funds were received from various sources during the past year as follows:

For a new Law School building the amount raised and on hand during the year was as follows:

Cash.....	\$ 1,385.78
Securities.....	25,868.75
Pledges.....	9,221.53

On August 31, 1917, a total of..... \$36,476.06

At the outbreak of the war, in view of the uncertainty of the future, it was determined to cease solicitation for this building and to postpone effort until the end of the war. The uninvested funds up to that date were invested in U. S. liberty bonds and the matter closed for the present, the interest on the investments being added to the principal of the fund while awaiting a renewal of the project.

The payments upon the mortgage debts were made during the past year to the amount of \$4,800.00, leaving the interest bearing debt at the close of the year \$25,362.50.

The following moneys have been received during the year:

Contributions for the year 1916-17:	
Prizes.....	\$ 105.00
Maintenance.....	1,150.00
For reducing mortgage Nurses' Home.....	1,000.00
	<u>\$2,255.00</u>

Endowment funds, etc.:	
Alumni Professorship Fund.....	\$ 32.80
Law School Fund.....	4,897.33
Jacques Law Fund.....	178.39
Jacques Medical Fund.....	178.39
Law School Building Fund.....	5,127.47
General Building Fund.....	12.15
\$50,000 Building and Grounds Fund.....	3,271.00
Mechanical Engineering Laboratory Fund.....	275.00
	<u>\$13,972.00</u>

The annual report of the receipts and expenditures of the Board of Lady Managers of the University Hospital will be found in the appendix to this report (A).

The action of the Board of Trustees during the current year in establishing a restoration fund for the Corcoran Endowment and appropriating two thousand dollars towards that purpose, should be noted as a decided move in the right direction. This is especially gratifying to me as a project included during my administration. Already a substantial contribution in aid of this movement has been generously made by a member of the Board.

The purchase of the building No. 2027 G Street made during the year covered by this report and referred to in my last annual report, having been completed, the building was altered and arranged for class rooms on the first floor, for much-needed rooms for the women students on the second floor and for offices and studios on the third floor.

In the registration for the present year 1917-18, the increase is confined entirely to the Department of Arts and Sciences, which has led to congestion in that Department, for which additional room is needed. About 70 per cent of the whole enrollment at the present time is in the various schools included in this Department and the consequent accumulation of the various records and papers concerning the Department makes it necessary to have more clerical assistance and more facilities for preserving the records. The question of relief to this overgrown condition and to the need for additional class rooms and for more space for the library, compelled the acquisition of an additional building which has been secured nearby and which is now undergoing the necessary alterations.

The outbreak of the war at once affected the student body of the University, both in the graduate and undergraduate departments. In some cases, especially in the Medical School, almost the entire graduating class went at once into the military service of the country. The Law School being composed largely of men within the military age, lost heavily from the upper undergraduate classes, besides the graduating class,

there being a total loss of about 22 per cent. Although the enrollment of the present year does not show on its surface the great loss due to the war, this arises from the addition of many eligible persons due to the great enlargement of the civil service of the government in the capital city.

George Washington University has contributed and is still contributing its share from the student body to the military and naval services of the country in all branches and has presented as fine a display of patriotism as other universities and colleges of the country, notwithstanding the fact that the student body does not stand detached from the community as in other cases, and hence is not subject to the impulses which result thereby in a community of youths.

The Librarian reports that the total number of accessions in the Arts and Sciences Library during the year was 1293, constituted as follows:

By purchase.....	508
By binding.....	79
By gift and exchange.....	706

Adding this total to the number of volumes reported last year namely, 41,085, we have now in the Library of the Arts and Science Department:

Bound.....	31,619	
Unbound.....	10,759	
		42,378
Law.....		7,102
Medicine.....		3,000
In the University Libraries.....		52,480 volumes

The Librarian goes on to say that the problem of more commodious quarters for our Library is ever before us. It is a question not of making a display but of making the splendid literature which our Library contains accessible to the Faculty and students alike and therefore enlarging its usefulness, and ultimately of raising the standard of our academic work. We must have not only reference material such as the average undergraduate needs, but also such other matter as is of value

to the research student. We cannot reasonably expect the Library of Congress to supply us with literature which its regular readers call for and have a perfect right to expect to find there, and past experience has also shown that some of our best students for obvious reasons, cannot readily find time to do their collateral reading at the Library of Congress or at the other Government libraries. Furthermore, in the interest of academic and administrative efficiency the library should be centrally located and should be kept together as a whole.

The Dean of Teachers College states that the year reported upon of 1916-17 shows an unusually high enrollment. For the year 1917-18 there has been a decided falling off. The cause is believed to be "primarily that the teachers of the Washington Schools, who constitute the bulk of our enrollment, have been assigned extra duties pertaining to food conservation, Red Cross work and the like. This takes their time and energy after school hours."

Dean Ruediger, of this College who is also Director of the Summer School, reports that "the Summer School of 1917 showed a gratifying increase over that of 1916 and the same cordial and studious spirit prevailed as was evident in 1916. Owing to war conditions there were more withdrawals during the session than the year before, but that was to be expected."

The College of Engineering is developing courses which are valuable for those entering several branches of the Naval Service and also giving advanced studies for those already in this Service. These courses were instituted by means of the property devised to the University by the late Rear Admiral Levin Powell U. S. N. A plant is gathering by gifts and otherwise which is particularly valuable in the courses of naval architecture and mechanical engineering.

Dean Hodgkins as dean of that college states that 37 of the engineering students of 1916-17 are now in the military services of the United States.

Columbian College is constantly growing in relative importance as the leading school in the University. The report of

Dean Wilbur of Columbian College shows a constant growth in the registration of that school from year to year since 1912. In 1912-13 there was a maximum enrollment of 353 students, in 1916-17, the year covered by this report, the maximum enrollment of 842 students, making this the great school of the University, as should be the case.

The report of the Dean is appended to this report (B). In it he mentions the activities of classes organized last spring for instruction under the auspices of the Red Cross in connection with the curriculum of Columbian College. As about one-third of the student body of this college is composed of young women, the timeliness and suitability of such instruction is evident.

The report of the Dean of Graduate studies is appended in full with tables and diagram (C).

The interesting and valuable report of the Dean of the Department of Arts and Sciences is also appended as a whole, so that it can be read in its various phases (D).

As marking the period covering my term as President, excepting the present year 1917-18, I will here give the comparison of the enrollment of the University by years:

Comparison of Enrollment

YEAR	STUDENTS IN UNIVERSITY	STUDENTS IN ARTS AND SCIENCES	PER CENT IN ARTS AND SCIENCES
1910-1911.....	1277	681	53.3
1911-1912.....	1270	733	57.7
1912-1913.....	1347	778	57.8
1913-1914.....	1611	905	56.2
1914-1915.....	1790	1047	58.5
1915-1916.....	1973	1194	60.5
1916-1917.....	2194	1446	65.9

This shows the steady gain, both relative and absolute, in Arts and Sciences, the relative gain bidding fair to be still larger for the present year.

The statement that the late afternoon students, both men

and women, obtain higher standing than the day students, is interesting and is explained by the fact that they are more mature and more interested in their studies. As the same standards of work are required of them as other students, they undoubtedly avail themselves of their opportunities to a greater extent than the students of earlier hours. This is a fact well borne out in the entire history of the University and is the subject of mention later on.

"It is very clear," the Dean states, "that the non-fraternity students rank higher in scholarship than the fraternity students. This is especially the case with the men of the fraternities. We have reason to believe that a serious effort is being made by the fraternity leaders to raise the scholarship of the members, but so far only with partial success." I commend the closing part of this report of the Department of Arts and Sciences to all who are interested in furthering education in this district and country.

The report of Acting Dean Ferson of the Law School discusses the cosmopolitan nature of its student body, both as to its geographical aspects and as to institutions from which the students are drawn.

As to the Law School and its policy, it is cogently stated in the report that: "The public is entitled to an honest and proficient bar. The interest of each student requires ability to rise above mediocrity before he enters an already overcrowded profession. These considerations have continued to guide us during the past year. It has been our endeavor to furnish careful instruction and to advance students no more rapidly than is compatible with thoroughness."

The Department of Medicine includes within its limits the Medical School, the Dental School, the University Hospital and the Training School for Nurses. The enrollment for the session 1916-17 of the Medical School was 118 students, somewhat less than for the previous session of 1915-16, the decrease being due to the fact that the first three classes were matriculated under the requirement of a one year pre-medical course at college.

The action of Congress making it possible for all medical students after December 15, 1917, to be exempt from the immediate effect of the selective draft by joining the Enlisted Reserve Corps either of the Army or Navy for service after graduation, enables the medical and dental student to complete their studies and enter, if desirable, for service after graduation and attainment of their degrees. Up to the time of the submission of the report of the Dean of the Medical School, forty-five students have filed applications for enlistment in the Army and four have applied for enlistment in the Navy.

"Our Medical Faculty," Dean Borden further reports, "has contributed generously to both the Reserve and the regular Corps of the Army and Navy, and while the loss of these Instructors was keenly felt at the opening of the school year, we have fortunately been able to obtain capable substitutes to fill these places, so that our medical teaching has not been seriously interrupted. A number of our teachers are in active service, doing duty at the Walter Reed Army General Hospital in this city and thus are able to continue their teaching at the Medical School. At the present time, twenty-five members of our Faculty are in active service in this city, in this country or abroad."

"The Superintendents of our Medical School and Hospital who were both retired Hospital Sergeants, were recalled for war service and received commissions as Captains in the Sanitary Corps. To provide for these vacancies, we made the Superintendent of our Training School for Nurses, Superintendent of the Hospital, and in the Medical School, the work of the Superintendent was divided among the full time professors and my Secretary. This arrangement has proven quite satisfactory."

"While Congress acted wisely in allowing medical students to continue their studies, in my opinion premedical students should also have been exempted. Nearly all of these are of draft age, many of them will be called and the regular flow of students to the medical schools will thereby be

checked. It is feared that the call to service of many of the premedical students next year will materially decrease the number of first year students in all medical schools in the United States. If the war lasts for more than one or two years, a continuation of this condition is bound to seriously decrease the number of medical men which the country will require."

Dean Walton of the Dental School reports that the School "is operating in class "A" of Dental Schools, under the supervision of the Dental Educational Council of America."

"The student body is greater at this time than ever in the history of this department. In view of this fact and the great need of more room and equipment, I respectfully request that this matter be given consideration before the beginning of next session."

This emphasizes the necessity of removing the Arts and Science Laboratories from the building in which the Medical and Dental Schools are placed in order to give all the departments concerned much-needed room.

The reports of the affiliated Schools of Pharmacy and Veterinary Medicine show a falling off in enrollment due to various causes largely on account of the war.

Of this decline, however, Dean Kalusowski says that "the decline in the number of applicants for admission to the courses of instruction given by this college continues, the causes leading to this condition are various and numerous, their influence, whether any single cause is considered or whether the causes are considered collectively, in effect, tend to reducing the number of applicants for admission."

"To devise a working plan by which this condition may be changed and an increase in the numbers of those entering the college may be brought about is a matter that is now being earnestly considered and some decisive action will soon be taken." The requirements for those licensed to practice pharmacy in the district should be increased and a degree from schools of pharmacy should be required in order to increase the efficiency of the existing schools in and about the District of Columbia.

Dean Buckingham of the Veterinary College reports that:—
“Of the undergraduates of the college who have entered the military service, the following is submitted:

Those enlisting voluntarily..... 11

Of the graduating class session 1916-17 which comprised six men, five of them took the examination for commission in the Veterinary Officers Reserve Corps and were commissioned as Second Lieutenants in that Corps. All of these men are now on duty in France with the United States forces. Quite a number of the older graduates also obtained commissions in that corps and are now in active military service.

Recognition was again accorded the college by the American Veterinary Medical Association; by the Bureau of Animal Industry, Department of Agriculture and by the various State examining boards.

The great needs of the University are first of all a restoration and increase of the endowment. This will not only give a stability to the income of the University, but will afford opportunity for an increase in salaries of the teaching staff so essential to the retention of efficient teachers and the acquisition of others of ability and experience. Research work, relief from anxiety for the future and a proper stimulus is more or less dependent upon a decent living salary. As a prerequisite for permanent endowment there should be a restoration of the former endowment funds and the payment of the comparatively small mortgage debt.

Following this or perhaps coincident with it as a result of special contributions, there should be provided (1) a science building for the overcrowded laboratories of the University now taking needed rooms in the Medical School Building; (2) a library building including an auditorium for about 1000 persons and the General University offices, and (3) a law school building for which very considerable funds are now on hand. These buildings are very much needed at once and while they should be fireproof a simple and dignified architectural effect will be sufficient.

Less pressing but of importance is an enlargement of the University Hospital so as to give the clinical facilities required by the Medical School and by the American Medical Association. This will, however, be only a temporary relief in this direction. There should be as a permanent matter either a new hospital and school in a less expensive situation or a combination with a hospital already existing with the erection of a new medical school building near by. The increase in the population in the city added to the growing demand for the use of hospital facilities, seems to justify the increase of hospital space in the district.

With a teaching staff properly paid I have no concern as to the educational standards of the University. Its large number of serious young men and women require no prodding in acquiring knowledge. By its high standard it can overcome the prejudices against urban universities, late hours and night laboratory and draughting work, co-educational schools, and a necessarily delayed time in acquiring degrees in course.

No one type of institution is entitled to receive more consideration and money than one like this, affording, as it does, a collegiate and professional education to men and women whose necessities compel occupations for a livelihood, while they are seeking an education denied them by circumstances. For such men and women there should be available the assistance of many scholarships at the command of the University.

As I have tendered my resignation as President of the University to take effect August 31, 1918, which resignation has been duly accepted, this report will be the last that I will make in that capacity. I was elected as Acting President of the University July 10, 1910, and shortly afterwards named as its President.

The eight years during which I will have held this office has been a period in my life which has proved to me both congenial and satisfactory. The severance of my relations with the Board of Trustees and the teaching and administrative staff of the University cannot, however, but be accompanied with feelings of deep regret. Especially is this the

case when these feelings are accompanied with a recognition of the constant and loyal support that I have received from them during my entire term as President of the University.

To those in the community at large who have contributed during my term of office by money and service to the success of the University, I can only repeat what was said last year, that such men and women live up to the full the high standards of American citizenship and afford to others an example of unselfishness in their response to the civic demands and educational needs of the day.

APPENDIX A

THE REPORT OF THE TREASURER OF THE BOARD OF LADY MANAGERS, THE GEORGE WASHINGTON UNIVERSITY HOSPITAL, JUNE 30, 1916 TO JUNE 30, 1917

<i>Receipts</i>		<i>Disbursements</i>	
June 30, 1916		Bed linen.....	\$114.56
Cash on hand.....	\$497.46	Blankets.....	100.64
Collections		China.....	25.36
Annual dues...\$370.00		Table linen.....	83.40
Sustaining dues 135.00		Towels.....	50.40
Fines.....	70.25		<hr/> \$374.36
	<hr/> 575.25	Nurses' Home	
Bazaar in De-		Bed linen.....	\$19.75
cember, 1916. \$628.95		Curtains.....	7.20
Balance from		Shades.....	5.95
theatre bene-		Shelves (closet)	4.00
fit.....	3.00	Small repairs...	18.00
	<hr/> 631.95	Towels.....	6.00
		Upholstering...	4.25
			<hr/> 65.15
Donations		Donations to George	
Thanksgiving.....	55.00	Washington University	
Interest.....	7.13	for Nurses' Home....	1000.00
Total receipts for the		Nurses' Christmas....	30.00
year.....	1269.33	Equipment	
	<hr/>	Bathroom.....	78.75
Total.....	\$1766.79	Printing and postage	
		Thanksgiving.. \$13.50	
		Regular.....	20.51
		Circulars.....	3.75
			<hr/> 37.76
		Flowers.....	10.00
		Total disbursements....	1596.02
		Balance on deposit in	
		Washington Loan and	
		Trust Company.....	170.77
			<hr/>
		Total.....	\$1766.76
		Respectfully submitted,	
		EVA HOUSTON LEWIS,	
		Treasurer.	

APPENDIX B

December 14, 1917.

TO THE PRESIDENT OF THE UNIVERSITY.

MY DEAR PRESIDENT STOCKTON: I submit the report of Columbian College for the year 1916-17, as follows:

Registration for the session was 842. This is an increase over the registration of the preceding year of 143. The registration figures since 1912 are as follows:

Registration for 1912-13.....	353
Registration for 1913-14.....	484
Registration for 1914-15.....	594
Registration for 1915-16.....	699
Registration for 1916-17.....	842

The analysis of the registration for 1916-17 affords the following data:

Number of men students.....	509
Number of women students.....	333 842
<hr/>	
Full time students.....	296
Partial-time students enrolled for the two periods beginning 5 p.m.....	546 842
<hr/>	

The distribution of full-time and partial-time students in the various educational Groups is as follows:

Bachelor of Arts:			
Full-time.....	182		
Partial-time.....	196	378	
<hr/>			
B.S. in Chemistry:			
Full-time.....	21		
Partial-time.....	79	100	
<hr/>			
B.S. in Medicine:			
Full-time.....	7		
Partial-time.....	3	10	
<hr/>			
One Year Pre-Medical:			
Full-time.....	20	20	
<hr/>			
Special students:			
Full-time.....	66		
Partial-time.....	268	334	842
<hr/>			

The educational classification is as follows:

Bachelor of Arts:			
Group I.....	17		
Group II.....	106		
Group III.....	79		
Group IV.....	175		
Group V.....	1	378	
<hr/>			
Bachelor of Science in Chemistry.....	100		
Bachelor of Science in Medicine.....	10		
One Year Pre-Medical.....	20		
Special students.....	334	842	
<hr/>			
Freshman Class.....	233		
Sophomore Class.....	131		
Junior Class.....	87		
Senior Class.....	57	508	
<hr/>			

The year 1916-17 was a prosperous year. The growth of the College was unprecedented, and the educational conditions and results were generally very satisfactory. The organization of student activities under University supervision developed appreciable community atmosphere and enthusiasm in student life. This is important. We have lacked the means of developing *esprit de corps* among the students usually afforded by the conditions and atmosphere of dormitory community life in universities. The absence of this feature in our own University life makes it necessary to develop *esprit de corps* by other means. It is not enough that there be student activities alone, although these have proven to be very useful. To develop a sense of solidarity in the student body and a community interest it is necessary to have some principle of associated activity sufficiently deep and strong to insure the ready coöperation of the student body. I believe that we have such a principle in patriotism and the occasion for it in this present war. A student assembly existing and organized for the purpose of engaging under the University name in the war work activities of the city, would enable us to engage in a more effective way in all the various activities, and would at the same time develop spontaneously such an *esprit de corps* as we have never known.

Special mention should be made of three classes organized in the spring of 1917 for instruction in Hygiene and Home Nursing, under the auspices of the Red Cross. These three classes were constituted of the young women from our student body and the instruction was given in

the Medical Building of the University, by Miss Mary W. Glascock, Superintendent of Nurses in the University Hospital. Examinations were given by official examiners of the Red Cross, and credit, when officially reported by the Red Cross, was counted towards the college degree.

The Military Service statistics of the 509 men registered last year in Columbian College, are as follows:

Men in Military Service.....	87
Percentage of Men in Military Service.....	17.1
Full-time Men in Military Service.....	30
Percentage Full-time Men in Military Service.....	22.5
Part-time Men in Military Service.....	57
Percentage Part-time Men in Military Service.....	15.2

The extent to which the men of the College serve the Federal Government is indicated by the fact that 60 per cent of the men in last year's registration were in the Civil Service, and 17.1 per cent left college to enter the Military Service. These two classes of students constitute 77.1 per cent of the men in the College. Our location in Washington has caused us to feel in full measure the influence of the war. These influences constitute an extraordinary opportunity and obligation.

War stirs idealism. The things for which men give their lives are the things that they value more than they do their lives and these are the ideal realities. It is the purpose of liberal education to inculcate a knowledge of these realities and to develop appreciation of them. The purpose of the training in Columbian College is not primarily professional, or technical, or vocational, but personal. The war is developing among our young people to an unprecedented extent an attitude of mind towards the ideal realities of culture and a hunger of soul for the ideal realities of culture. This state of mind and soul constitutes a grave responsibility for those who teach in Columbian College and constitutes also a unique opportunity. In my judgment this does not suggest any new curriculum group or the introduction of any new subjects in the curriculum. It suggests rather the importance of a sensitive and vital appreciation of the opportunity by all those who teach. It suggests also that there should be a new emphasis upon those subjects that are the primary means of discipline and culture—pure mathematics and the literatures of the great languages, and philosophy, and the social sciences dealing with the relations of men. All of these minister in important ways to the thought and the hunger of the times. Our registration shows the increasing appreciation of the cultural studies.

In 1837, Emerson in "The American Scholar" found it important to say to his fellow-countrymen in the midst of the material influences of

the new world, that the scholar should not be a thinking machine but a Man thinking. At this present time it is important for us to know that the war is teaching this lesson as it was never taught before. It is the responsibility of the educators of this generation to see to it that in their plans and in their instruction they develop the kind of citizenship that will properly constitute that democracy for which the service of America in this war is fitting the world.

Respectfully submitted,

WILLIAM ALLEN WILBUR,

Dean.

APPENDIX C

December 15, 1917.

TO THE PRESIDENT OF THE UNIVERSITY:

DEAR SIR: I have the honor to present herewith my report on the School of Graduate Studies (University Research) for the year 1916-'17 which marks the completion of twenty-three years' work.

The students enrolled and the degrees sought by them are set forth in the following table:

TABLE I

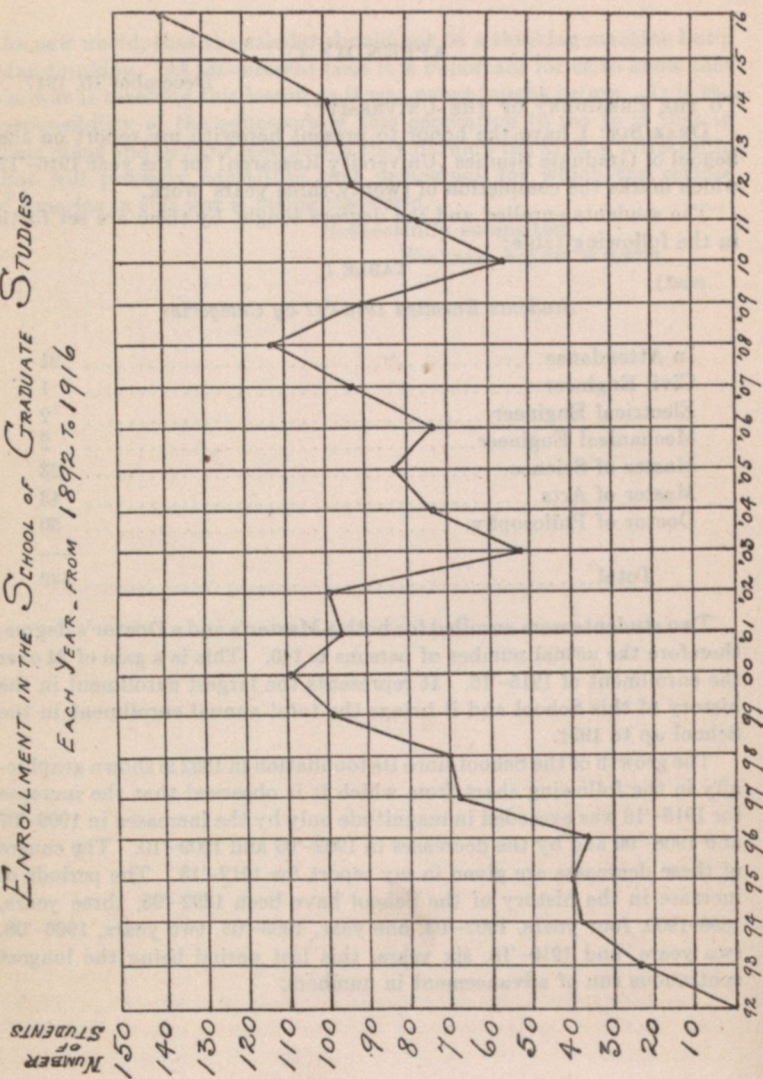
Students Enrolled 1916-'17 by Categories

In Attendance.....	21
Civil Engineer.....	1
Electrical Engineer.....	2
Mechanical Engineer.....	2
Master of Science.....	23
Master of Arts.....	43
Doctor of Philosophy.....	50
<hr/>	
Total.....	142

Two students were enrolled for both a Master's and a Doctor's degree, therefore the actual number of persons is 140. This is a gain of 24 over the enrollment of 1915-'16. It represents the largest enrollment in the history of this School and it brings the total annual enrollment in the School up to 1931.

The growth of the School since its foundation in 1892 is shown graphically in the following chart from which it is observed that the increase for 1915-'16 was exceeded in magnitude only by the increases in 1906-'07 and 1908-'09 and by the decreases in 1902-'03 and 1909-'10. The causes of these decreases are given in my report for 1912-'13. The periods of increase in the history of the School have been 1892-'95, three years, 1896-1900, four years, 1902-'03, one year, 1903-'05, two years, 1906-'08, two years, and 1910-'16, six years, this last period being the longest continuous run of advancement in numbers.

ENROLLMENT IN THE SCHOOL OF GRADUATE STUDIES
EACH YEAR, FROM 1892 TO 1916



The students for 1916-'17 were drawn from quite a wide area, mainly from 28 states or territories and four foreign countries, as shown by the following:

TABLE II

States of United States from which Students were Registered

<i>State</i>	<i>Number</i>	<i>State</i>	<i>Number</i>
Alabama.....	1	Nebraska.....	1
Colorado.....	1	New Hampshire.....	1
District of Columbia.....	65	New Jersey.....	1
Illinois.....	4	New York.....	11
Iowa.....	1	Ohio.....	3
Kansas.....	4	Oklahoma.....	1
Kentucky.....	1	Pennsylvania.....	5
Massachusetts.....	1	Philippine Islands.....	1
Maine.....	1	Rhode Island.....	1
Maryland.....	13	Tennessee.....	1
Michigan.....	2	Utah.....	3
Minnesota.....	2	West Virginia.....	1
Missouri.....	1	Wisconsin.....	3
Montana.....	1	Virginia.....	5

Foreign Countries

Canada.....	1	France.....	1
China.....	1	Japan.....	1

This shows a greater range of territory than in 1915-'16 when the students enrolled were drawn from but 14 states or territories and but one foreign country yet the local growth has more than kept pace with the total growth, the enrollment for 1916-'17 from the District of Columbia being 65 or 46.4 per cent, of the total for this year while for 1915-'16 the number for the District was 43 or 37.1 per cent of the year's total.

The number of candidates graduated was unusually large, the number on whom the degree of Doctor of Philosophy was conferred being the largest appearing at any Commencement in our history. Degrees were conferred at the October and Mid-Winter Convocations and at Commencement as follows:

TABLE III

Degrees Conferred 1916-'17

Electrical Engineer	June.....	2
Master of Science	October.....	1
Master of Science	June.....	8
Master of Arts	October.....	1
Master of Arts	February.....	2
Master of Arts	June.....	13
Doctor of Philosophy	June.....	11
Total.....		38

The years of candidature for these graduates are set forth as follows:

TABLE IV

Years of Candidature for Graduates in 1917

DEGREES	YEARS		
	One	Two	Three or more
Engineering.....			2
Master of Science.....	5	2	2
Master of Arts.....	9	6	1
Doctor of Philosophy.....		8	3
	14	16	8

Bearing in mind that one year is the minimum requirement of candidates for the Engineering and Master's degrees, for those possessing the baccalaureate degree, and two years for the Doctor of Philosophy degree, for those possessing the Master's degree, it will be observed that all but eight or 21.1 per cent satisfied the requirement in the minimum time as compared with four or 11.5 per cent for 1915-'16. Those who prolonged the time of study were engaged in professional work.

It is of value to inquire somewhat in detail into the kind of topics selected by the candidates and the extent to which they were selected as a guide to the development of the school. The results of such an investigation are set forth as follows:

TABLE V

Kind and Number of Topics for which Students were Enrolled 1916-'17

<i>Topic</i>	<i>Number</i>	<i>Topic</i>	<i>Number</i>
Chemistry.....	52	Applied Mathematics.....	2
Education.....	39	Clinical Microscopy.....	2
Bacteriology.....	31	History of Art.....	2
English.....	27	International Law and Diplo-	
Zoology.....	27	lomacy.....	2
History.....	18	Mineralogy.....	2
Philosophy.....	18	Pharmacology.....	2
Sociology.....	18	Preventive Medicine.....	2
Economics.....	16	Semitics.....	2
Botany.....	13	Spanish.....	2
Political Science.....	11	Archaeology.....	1
Psychology.....	11	Architecture.....	1
Physics.....	10	Civil Engineering.....	1
French.....	8	Embryology.....	1
German.....	8	Greek.....	1
Meteorology.....	7	Gynecology.....	1
Pathology.....	7	Histology.....	1
Physiology.....	7	Hygiene.....	1
Electrical Engineering.....	5	Mathematics.....	1
Geology.....	5	Medicine.....	1
Microscopy.....	5	Nautical Science.....	1
Mechanical Engineering.....	3	Psychiatry.....	1
Paleontology.....	3	Russian.....	1
Anatomy.....	2		

As will be noted by Table V there were 46 different topics selected by candidates in 1916-'17 as compared with 35 for 1915-'16. The topics standing as the first 10 on the list for 1916-'17 are identical with those in a similar table for 1915-'16 except that Sociology displaced Political Science, and these first ten remain in nearly the same order for the two years, the chief change being that English in 1916-'17 jumped Zoology and History. An interesting observation in the remainder of the table is the passing of French from the eighteenth to the fourteenth place and German from the twenty-second to the fifteenth place.

There is repeated here an inquiry into the character of topics that appeal to women students pursuing advanced studies and the results are set forth in the following table.

on May 14. The examinations were very thorough and it is gratifying to report that all the candidates who appeared eventually passed, but in some instances a decision by the Boards of Experts was withheld until the candidates could supply further evidence of fitness or further data and arguments with which to maintain the thesis.

There has been received for distribution copies of the thesis on "The Analysis of Permissible Explosives" by Dr. C. G. Storm, which was published as Bulletin No. 96 of the U. S. Bureau of Mines as a pamphlet of 88 pages with three plates and 7 figures in the text. The thesis of Dr. Horace Hatch Custis on "Studies in Actinochemistry" is now being published in installments in the *Journal of the Franklin Institute*.

Up to the present, according to such information as I have been able to secure, about twenty of the graduates, or former students in this School, have received commissions in the Army or Navy, and a number of others are engaged in War services, chiefly as explosives chemists and this number is constantly being increased.

The year has been distinguished by the number of inquiries from abroad that have been received, correspondence having been carried on with persons—contemplating enrollment here to pursue graduate studies—resident in South Africa, Switzerland, Ireland and India.

Respectfully submitted,

CHARLES E. MUNROE,
Dean, Faculty of Graduate Studies.

APPENDIX D

December 15, 1917.

TO THE PRESIDENT OF THE UNIVERSITY:

DEAR SIR: I have the honor to submit the following report in regard to the Department of Arts and Sciences for the session of 1916-17.

The enrollment was as follows:

	<i>Men</i>	<i>Women</i>	<i>Total</i>
Graduate School.....	108	32	140
Columbian College.....	503	339	842
College of Engineering.....	255	2	257
Teachers College.....	9	199	208
	—	—	—
	875	572	1447
Duplicates.....	1	—	1
	—	—	—
	874	572	1446
Candidates for a degree.....			973
Special students.....			473

The undergraduate students were divided between day students and afternoon students as follows:

	<i>Men</i>	<i>Women</i>	<i>Total</i>
Day students.....	195	190	385
Afternoon students.....	572	350	922
	—	—	—
	767	540	1307

A comparison of the total enrollment and the enrollment in Arts and Sciences in the seven years since 1910 shows the following results:

Comparison of Enrollment

YEAR	STUDENTS IN UNIVERSITY	STUDENTS IN ARTS AND SCIENCES	PER CENT IN ARTS AND SCIENCES
1910-1911	1277	681	53.3
1911-1912	1270	733	57.7
1912-1913	1347	778	57.8
1913-1914	1611	905	56.2
1914-1915	1790	1047	58.5
1915-1916	1973	1194	60.5
1916-1917	2194	1446	65.9

The average attendance in classes and the distribution of the students in the several divisions of the Department are shown in the following table:

Average Enrollment in Classes

		GRADUATES	COLUMBIAN COLLEGE	ENGLISH	TEACHERS COLLEGE	TOTAL
Applied Mathematics	20, 22	1	1	21		23
	21			10		10
Archaeology	20		11		3	14
	50	1				1
	52	1	2			3
Architecture	2		8	7		15
	3			8		8
	4		1	6		7
	5		1	6		7
	6			4		4
	8		1	7	1	9
	20		2	3	2	7
	21		1	7		8
	22, 41			6		6
	24			4		4
	25			3		3
	28	1	13		6	20
	33		3	3		6
	39	1		6		7
	40		1	2		3
Astronomy	2			10		10
Botany	1		16		3	19
	50	7				7
Chemistry	1		93	42	3	138
	2		84	5	2	91
	3	3	20	1		24
	4		4			4
	6	1	22	24		47
	7		2	26		28
	20		22	8		30
	21	1	14			15
	23	7	24	1		32
	24	8	21			29
	25	3	14			17
	26	6	14			20
	27	2	3			5
	28	8	2			10
	52	2				2

Average Enrollment in Classes—Continued

		GRADUATES	COLUMBIAN COLLEGE	ENGLISH	TEACHERS COLLEGE	TOTAL
Civil Engineering	1			8		8
	2			11		11
	3, 4			9		9
	20			4		4
	21			7		7
	22			16		16
	23			4		4
	24			5		5
	50	1		2		3
	55	1				1
Economics	1		61		6	67
	2		63		15	78
	23, 22	1	34		6	41
	26, 27	1	32		1	34
	33	1	27	15	1	44
	36	1	19	1	1	22
	37, 38		14	1	1	16
	43, 44		15	1		16
Education	51	5	2		1	8
	20		10		8	18
	21	3	4		20	27
	22	4	3		30	37
	25	5			7	12
	27	9			4	13
	29		1		13	14
	30		2		16	18
	33	1			5	6
	34				5	5
	35				2	2
	50	16			4	20
Electrical Engineering	1			3		3
	2		1	3		4
	4, 5			4		4
	6			10		10
	7		2	2		4
	21			6		6
	22	1				1
	23	1				1
	24			3		3
	53	2		1		3

Average Enrollment in Classes—Continued

		GRADUATES	COLUMBIAN COLLEGE	ENGLISH	TEACHERS COLLEGE	TOTAL
English	1		84	12	8	104
	2		103	24	22	149
	5		3		1	4
	7		28		9	37
	20		4			4
	23	1	19		7	27
	27		37		6	43
	28	2	35		6	43
	29	3	15		5	23
	31	1	16	1	3	21
	50	9	17		12	38
French	1		39	8	3	50
	(Two sections) 2		39	11	3	53
	3		24	1	2	27
	4		13	2	2	17
	5		13		3	16
	6		6	1	1	8
	7	3	7		3	13
	26	2	3		1	6
Geology	1		16			16
	2		30	3		33
	3		14		1	15
	21		1	10		11
	22		4			4
German	1		7	4	1	12
	2	1	26	3		30
	3		20	9	3	32
	4		10			10
	5		15		2	17
	6		19	11		30
	8	1	14		1	16
	20		6			6
	22	1	7		3	11
	50	1				1
Graphics	1		2	19	1	22
	2			6		6
	8			12		12

Average Enrollment in Classes—Continued

		GRADUATES	COLUMBIAN COLLEGE	ENGLISH	TEACHERS COLLEGE	TOTAL
Greek	B		1			1
Classical Literature	1		5		4	9
History	1, 2		38		8	46
	3, 4		23		7	30
	5, 6		32	2	4	38
	20	1	49		4	54
	25	3	22		5	30
	30		31		3	34
	33	3	58		55	116
	54	2	13		7	22
Latin	1		8			8
	2		2		1	3
	22				1	1
Mathematics	3		31	5	2	38
	4		5	3		8
	6		28	12	2	42
	9		19	13	4	36
(Two sections)	12		29	46		75
	20		12	23		35
	21		9	7	1	17
	50		4		1	5
Mechanical Engineering	1			13		13
	7			4		4
	9			4		4
	10			4		4
	20, 21			5		5
	23			4		4
	24			2		2
	26			8		8
	27			5		5
	51			1		1
Nautical Science	1			2		2
Naval Architecture	1			8		8
Meteorology.....	50	2				2
	51	4				4

Average Enrollment in Classes—Concluded

		GRADUATES	COLUMBIAN COLLEGE	ENGLISH	TEACHERS COLLEGE	TOTAL
Philosophy	1, 3		46		10	56
	2, 4		47		29	76
	20, 21		10		3	13
	24	1	3		13	17
	25	2	1		5	8
	28	2	2		8	12
	22, 29	2	3		11	16
	51	8				8
	52	1				1
Physics	1		25	36		61
	2		42	25		67
	3		26			26
	21	2	2			4
	59	1	1			2
Political Science	1, 4		31		4	35
	21, 23	1	38			39
	29, 30	1	11			12
	28, 31		9			9
	56	1	3			4
Portuguese	1		3			3
Spanish	1		41	5	4	50
	2		36	4	4	44
	3		9	1	1	11
	4		16	1	4	21
Zoology	1		18		3	21
	2		11			11
	3		14			14
	23	1			4	5
	50		4			4
Hebrew			9	1	2	12

The number of class periods a week, the number of students, and the number of "student hours" a week in the various subjects are shown in the following table:

	CLASS PERIODS EACH WEEK	AVERAGE NUMBER OF STUDENTS	STUDENT HOURS
Applied Mathematics.....	6	33	112
Archaeology.....	8	18	40
Architecture.....	37	114	271
Astronomy.....	1	10	10
Botany.....	8	26	92
Chemistry.....	50	492	1181
Civil Engineering.....	36	68	222
Economics.....	21	326	805
Education.....	20	172	356
Electrical Engineering.....	22	39	84
English.....	32	493	1475
French.....	26	190	557
Geology.....	9	79	143
German.....	30	165	495
Graphics.....	14	40	92
Greek.....	2	1	3
Classical Literature.....	2	9	18
History.....	22	370	878
Latin.....	7	12	34
Mathematics.....	26	256	763
Mechanical Engineering.....	20	50	120
Nautical Science.....	2	2	4
Naval Architecture.....	4	8	2
Meteorology.....	10	6	30
Philosophy.....	23	207	570
Physics.....	16	160	413
Political Science.....	14	99	293
Portuguese.....	3	3	9
Spanish.....	12	126	378
Zoology.....	21	55	182
Hebrew.....	1	12	12

This gives a total of 506 class periods a week, and these consist of 380 lectures or recitations and 126 laboratory or drawing periods a week. This is an increase of about ten per cent over the previous year.

The following table gives a comparison of the work done in the principal subjects for the last four years. In many subjects there is

a decided increase shown proving both the growing demand for the courses and also the effectiveness and established reputation of the teaching staff. Fluctuations in enrollment in some subjects are due, in part at least, to the fact that all technical subjects are not given every year in the late afternoon hours, when the majority of technical students are in attendance.

Comparison of "Student Hours"

	1913-'14	1914-'15	1915-'16	1916-'17
Applied Mathematics.....	54	68	70	112
Archaeology.....	68	72	48	40
Architecture.....	164	178	242	271
Botany.....	21	30	33	92
Chemistry.....	618	996	1086	1181
Civil Engineering.....	178	158	228	222
Economics.....	449	482	584	805
Education.....	201	246	297	356
Electrical Engineering.....	104	81	99	84
English.....	822	1059	1264	1475
French.....	349	486	534	557
Geology.....	110	102	152	143
German.....	370	441	459	495
Graphics.....	72	105	147	92
Greek.....	9	8	9	3
History.....	526	648	771	878
Latin.....	37	66	45	34
Mathematics.....	459	617	693	763
Mechanical Engineering.....	82	104	159	120
Nautical Science.....	8	6	16	4
Philosophy.....	285	344	378	570
Physics.....	276	361	427	413
Political Science.....	199	261	329	293
Spanish.....	108	88	264	378
Zoology.....	91	216	296	182

A study has again been made of the grades reported by instructors during the year, and the following table shows the total number of term marks reported in each subject, and percentage of marks in each grade. The "theoretical average" is taken from a report on grading made two years ago by a committee of which Dean Ruediger was Chairman.

Distribution of Grades

	TOTAL NUM- BER OF MARKS	GEN- ERAL AVER- AGE	PERCENTAGE				
			A	B	C	D	E
Applied Mathematics...	51	79.6	12	10	33	29	16
Archaeology.....	26	95.0	46	50	4	0	0
Architecture.....	157	89.3	15	42	35	8	0
Botany.....	37	83.0	3	8	59	30	0
Chemistry.....	644	84.0	7	36	31	20	6
Civil Engineering.....	119	81.6	8	28	29	29	12
Classical Literature.....	18	99.6	33	39	11	17	0
Economics.....	555	86.5	11	29	44	15	1
Education.....	280	89.8	17	47	31	4	1
Electrical Engineering..	48	86.2	17	27	35	17	4
English.....	836	87.4	22	32	29	11	6
French.....	325	83.3	8	21	30	26	5
Geology.....	138	88.6	23	35	28	12	2
German.....	291	86.6	21	29	29	15	6
Graphics.....	63	86.9	11	35	46	3	5
History.....	465	85.3	12	30	36	15	7
Latin and Greek.....	27	87.8	26	33	22	15	4
Mathematics.....	494	78.3	17	15	21	23	24
Mechanical Engineering	61	87.6	13	33	39	13	2
Philosophy.....	349	84.3	10	26	38	22	4
Physics.....	280	79.1	13	16	27	24	20
Political Science.....	182	85.8	15	26	36	18	5
Spanish.....	201	86.1	15	27	36	18	4
Zoology.....	73	88.3	28	29	30	12	1
General Average.....	5720	85.0	14	29	33	17	7
Theoretical Average..			4	24	44	24	4

A comparison of these figures with those of my reports for the last three years shows some changes which tend toward a greater uniformity in the marking systems of the instructors in different departments of study, but the results are not yet entirely satisfactory.

A study has again been made of the averages obtained by the students in the three undergraduate colleges. The grades used in the Department of Arts and Sciences are: A = 96-100; B = 90-95; C = 80-89; D = 70-79; E = Failure; F = work incomplete.

For the purposes of this study of standings the following percentages were arbitrarily assigned to the letters, A = 98; B = 92.5, C = 85; D = 75; E = 55.

Averages of Students

	1915-'16	1916-'17
Columbian College.....	86.0	84.8
College of Engineering.....	81.9	82.8
Teachers College.....	90.3	89.4
General Average.....	86.4	85.0

It is to be noted that the changes in averages tend to bring the students' marks in the three colleges toward a single average. This may be interpreted as meaning that there is a growing uniformity in the marking by the teaching staff, and is a desired result.

As the students in Columbian College represent the general college student, as distinguished from the student whose work is more of a professional character, as is the case with the students of the College of Engineering and of Teachers College, a further study was made of student marks in Columbian College, and the following averages were obtained.

Averages of Columbian College Students

General average of all students.....	84.8
General average of all men.....	83.5
General average of all women.....	86.9
General average of day men.....	83.1
General average of afternoon men.....	83.7
General average of day women.....	86.5
General average of afternoon women.....	88.4
General average of candidates for degrees	
Men.....	83.5
Women.....	86.9
General average of Special students	
Men.....	83.0
Women.....	87.0

It will be seen that the women average higher than the men to about the same extent as in the previous year.

It is especially interesting to note that the afternoon students, both men and women, obtain higher standing than the day students. As a general rule the afternoon students are older than the others, and naturally more interested in their studies. Since the same standards of work are required of them, they evidently utilize their opportunities more effectively than do the day students.

A study of the marks of fraternity and non-fraternity members was made, with the following results.

Average of all men.....	83.3
Average of non-fraternity men.....	83.8
Average of fraternity men.....	81.7
Average of all women.....	87.8
Average of non-fraternity women.....	88.7
Average of fraternity women.....	86.2

The averages of the several fraternities were as follows:

Men's Fraternities

Phi Alpha.....	88.2
Sigma Alpha Epsilon.....	86.1
Kappa Alpha.....	84.8
Delta Tau Delta.....	83.9
Sigma Chi.....	83.1
Theta Delta Chi.....	81.9
Sigma Nu.....	80.1
Phi Sigma Kappa.....	78.9
Kappa Sigma.....	77.7
Sigma Phi Epsilon.....	77.4

Women's Fraternities

Pi Beta Phi.....	88.1
Sigma Kappa.....	87.6
Phi Mu.....	84.1
Chi Omega.....	82.8

It is to be noted that members of the men's fraternities are found in all departments of the University, while membership in the women's fraternities is confined to students of the Department of Arts and Sciences. It is probable, therefore, that the averages for the men's fraternities and the relative standing of the several fraternities might be considered changed were the marks of the student members from the professional schools included.

It is very clear that the non-fraternity students rank higher in scholarship than the fraternity students. Among the men there are ten fraternities. Four of these rank higher than the average of all men; two others rank as high or higher than the average of fraternity men but lower than the average of all men; while four are below both averages.

Among the women one fraternity is higher than the average of all women; a second is higher than the average of fraternity women; and the others are below both averages.

Similar results were noted last year, and conferences have been had with representatives from many of the fraternities. I believe a serious effort is being made by the fraternity leaders to raise the scholarship of the members, but it is evident that these efforts have not yet met with full success.

The work in many courses was considerably disturbed after the declaration of war in the spring. In common with other Universities, our students were in a state of unrest. There was a desire to enter into the military service of the government and to take a part in active war work. Because of the great increase in work in the departments of the government concerned with military preparations large numbers of the afternoon students worked extra hours at their offices, and were compelled to withdraw from College or to discontinue part of their college work. And yet the solemn events of the spring reacted to create a more serious feeling on the part of all students, and there was less of failure in studies than was anticipated. The Faculties gave special consideration to the problems created by the new conditions, and proper credits were given to those students whose studies were interrupted because they were engaged in active work in direct military duties or in special positions that were concerned with military preparations.

The exact number of students who have entered active military work is not definitely determined. Efforts are being made to complete the lists of students who have joined the military forces, and at present the known number is more than one hundred and fifty from Arts and Sciences.

These figures include students of the session of 1917-'18, as well as of the session of 1916-'17, and it is certain the number will be considerably increased in the next few months.

The war situation produced new problems, and will continue to produce new problems. How the attendance would be affected could not be known until the session of 1917-'18 began, and it was therefore deemed wise to defer some planned additions to the teaching staff, and wait for developments.

The large increase in the clerical force of the government has resulted in an increased attendance in the afternoon classes, and it seems certain that this clientele from which we draw our afternoon students is to be still further increased, and will remain much larger than it was a year ago, even after the war has ended.

It would appear expedient, therefore, to plan for the future on the basis of a continually growing attendance, particularly in the afternoon classes. It seems certain that we need an additional man in Mathematics, in Romance Languages, and in Engineering. Some additional work is given this year in Commerce, and the registration is

sufficient to warrant us in giving special thought to adding other courses in Business Administration and Accounting.

Though there seems no way at present to improve the situation in regard to Chemistry, I feel it is my duty to refer again to the handicap under which we are working because the quarters for the Chemistry department are so inadequate and so inconveniently situated in the Medical Building, fifteen minutes distant from the other buildings of the Department of Arts and Sciences. A science building near our present quarters on G Street would add greatly to the efficiency of our teaching.

Our experiences in the months since the declaration of war are convincing evidence of the need in this city of a University doing the work we are doing. We are of service to hundreds of young men and women whose homes are in Washington and to other hundreds who are here for a longer or shorter time in the service of the government.

But of far more importance than this, we are of service to the national government in that the government employees who attend our classes gain special knowledge which makes their services in their department work more efficient. This has been recognized by department chiefs who in a number of cases have arranged the overtime work in such a manner that employees can attend classes at the University. Also, in a circular letter issued by the Civil Service Commission in an appeal to persons throughout the country to take examinations for positions in the departmental service attention was called to the opportunities for persons so employed to take college and technical courses in the Universities in Washington. As this is the only University in Washington that provides this instruction at the proper hours, the reference was evidently to us.

This duty and this opportunity we are meeting in as full a measure as our facilities will permit. With larger funds to provide for additions to our Faculty, we could do much more, and could better serve the nation.

Respectfully submitted,

H. L. HODGKINS,

Dean.